

# Railway Age

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## Is Flagging Required with Automatic Signals?

THE installation of automatic signals has, on most roads, resulted in no change in the requirements for flagging set forth in Rule 99. Some operating officers contend that when automatic signals are provided a flagman should not be required to run back to flag when the train is stopped for a brief interval, while other officers, who are fearful of making any change in rules, countenance short flagging without criticism except when some accident happens. Realizing the protection afforded by the signals the flagman, in an effort to reduce delays, is inclined to stay as close to his train as possible. The engineman of a following train on the other hand may be depending on the flagman entirely and fail to govern his speed according to signal indication, especially in caution blocks. This divided responsibility is considered as having contributed to several serious accidents. The time consumed by calling in a flagman and awaiting his return, if spent in getting the train under way, would place the train out of the way of any following train that much quicker. The Northern Pacific, which has 2,225 miles of line protected by automatic signals, seems to have arrived at a happy solution of this problem by issuing instructions that a flagman is not required to go back to protect his train if he can see an automatic signal at danger at least one-half mile in the rear of his train. This practice is working out quite satisfactorily in reducing delays and is a step in the direction of eliminating rear flagging in automatic territory which might well be studied by operating officers on other roads.

## The Article on Ford's Railroad.

APPARENTLY the purpose of the *Railway Age* in publishing recently an article on operating practices of Henry Ford's Detroit, Toledo & Ironton was not made as clear as we intended it should be. In a "Letter to the Editor" published in the issue of March 21, which contained a most welcome discussion of the road's labor policy, a correspondent expresses surprise at what he considers our opinion that all of the methods in use on the D. T. & I. could be applied with success on other railroads. The *Railway Age* would be as surprised at itself, as our correspondent is, if it found itself possessed of that notion. It may be said in passing that we do feel that many of Mr. Ford's innovations are practical. However, it is not our purpose to enter into a defense of the practices which we described. Neither are we inclined to argue against these practices. We made our study of the D. T. & I. with the wholehearted co-operation of the management with the sole idea of preparing an unbiased, unargumentative report on it. In preparing the article we were reporters, not advocates. The widespread discussion which the article has caused is very gratifying, since it justifies our belief that the D. T. & I. manage-

ment is doing many things in which other railway officers are interested. We have received many messages, some of which approved of the practices we described, while others condemned them. They are all welcome and we hope that many more will be forthcoming. Great good can come from such discussion. If you have not read the article turn back to page 501 of the issue of February 28 and read it. We believe you will be interested in learning of something new under the railroad sun.

## Is the Hot Box a Necessary Evil?

THERE is at least one railroad term sufficiently familiar to men in every department and to the public also as not to require definition, and that is "Hot Box." Higher railroad officers may consider the treatment of hot boxes a maintenance detail not requiring their personal attention. They cannot, however, avoid putting their personal signatures of approval on the bill. Individual hot boxes cost more in freight than in passenger service. The figures have been variously estimated at about \$26 and \$19 respectively. Some of the large roads average as many as 500 hot boxes a month in freight service. In other words, the monthly bill is \$13,000 for each month of the year. The loss in passenger service, while much less owing to the relatively smaller number of cars involved, usually totals some hundreds of dollars a month in addition, to say nothing of delays to other trains and annoyance to passengers. The task of maintaining journal boxes on 2½ million freight cars and 58,000 passenger cars in such condition that the journals will not run hot is tremendous. It is not reasonable to expect perfection in this work. And yet every hot box is a reflection on some administration which has to that extent failed to organize, systematize and check its work. Frequently it is more a question of the organization of inspection forces at original and intermediate terminals than the size of the forces which needs attention. However, inspection standards fall whenever the forces are held at too low a point, and \$13,000 a month will employ a great many car oilers. The setting of objective car mileages between hot boxes and the constant study by every road of ways and means to minimize the evil is undoubtedly justified.

## Foreign Language and the London Congress

ONE objection which has been raised against extensive American participation in the International Railway Congress has been the unprofitableness of discussion in tongues foreign to American and other English-speaking railroad men. We think this objection well taken—indeed we made it ourselves in commenting on the Congress in Rome in 1922, where most of the discussion was carried on in French or Italian. But this objection, valid as we feel it to be at some Congresses, does not hold for the

Congress to be held in London this June—for the simple reason that English will probably be the dominant tongue at London. The constitution of the International Railway Congress Association rules that the official language shall be French and that of the country in which the Congress is held. Thus, at London this summer, English will be on the same footing as French; and if it does not predominate, the only reason will be failure of English-speaking railway men to participate in sufficient numbers. Let no one, therefore, who would otherwise attend the Congress, fail to do so because of the fear of not being able to understand the proceedings. By far the greater part of the railway mileage of the world is operated by English-speaking people. English should therefore be, if not the only official tongue, at least on par with French. The latter will be the case at London this summer under the rules as they now stand. It will be the case in 1930 if the Congress should come to this country. But it should be made permanent. There is just one way in which this can be brought about, i.e., for English-speaking railroad men to interest themselves to a greater degree in the affairs of the International Railway Congress Association. The first logical step in this direction would be for the United States and Canada to send to London this summer delegations commensurate with their railroad mileage.

## The Rate Structure Investigation

IT is interesting to note that the first reaction to the Interstate Commerce Commission's announcement of the procedure it proposes to follow in conducting the general investigation of the rate structure ordered by Congress in the Hoch-Smith resolution came from the bituminous coal industry, rather than from agriculture, the "existing depression" in which was the occasion for the original introduction in 1923 of the resolution finally passed in 1925. In response to the commission's suggestion that it would entertain applications to reopen cases already decided or to allow further hearings in cases heard but not yet decided, counsel for the interveners in the lake cargo coal cases, involving rates on coal via the lakes to the Northwest, promptly filed a petition for further hearings at which evidence might be presented as to the conditions now prevailing in the coal industry. These were not considered by the commission to be germane to the issues, the petition says, but the provision in the Hoch-Smith resolution requiring consideration of "the conditions which at any given time prevail in our several industries . . . to the end that commodities may freely move" is declared to make it incumbent upon the commission now to consider them in connection with these cases. Although agriculture is the only one of our several industries specifically mentioned in the resolution, and although the Senate resolution which was later combined with the House resolution originally contained a declaration that agriculture is the "basic industry" of the country, it is probable that the condition of the bituminous coal industry just now is worse than that of agriculture.

While the Sixty-eighth Congress, or at least the House of Representatives, is to be congratulated upon having resisted the many temptations set before it to pass bills which would have engaged it in direct rate-making, and while the Hoch-Smith resolution can hardly be considered a particularly black blot on the otherwise clear page of its record pertaining to railroad legislation, it is likely that even this attempt on its part to declare "the true policy in rate-making to be pursued by the Interstate Commerce Commission in adjusting freight rates" may illustrate the

folly of going as far as it has into the domain of prescribing just and reasonable rates. It is true that the direction to consider temporary conditions in the several industries is qualified by the additional words "in so far as it is legally possible to do so," and that the commission has not yet promised to reopen any cases for reconsideration in the light of the Hoch-Smith principles, or to so adjust rates that all the coal the bituminous mines could produce may freely move to consumers. However, the fact that the resolution and the investigation to be conducted under it invite such petitions ought to be sufficient to show that, when Congress tried to make the farmer believe it had done something to relieve him by indirection when it had failed to agree on a more direct method, it started something which may produce some surprising results, if any.

Of course, one difficulty faced by the framers of the resolution was that they were proceeding upon an assumption, rather than upon knowledge, that agriculture was not receiving a fair deal in the making of rates, and because they were acting only on assumption they could not directly declare for a preferential treatment of agricultural rates without reference to other rates. As the result of efforts to declare as strongly as possible for lower rates for the farmers without specifically demanding preferential treatment for them, the resolution as it finally emerged is such a hodge-podge that the commission felt it necessary to make its order for an investigation broad enough to cover even rates via pipe lines, telegraph and telephone lines and Pullman cars, as well as the relation of interstate to intrastate rates, although it intends for the present to confine its investigation to freight rates. When it comes to applying the resolution, however, the commission may have some difficulty in reconciling the declaration in the first paragraph that the "true policy in rate-making" is to consider the conditions which "at any given time" prevail, with the direction in the body of the resolution, referring to the suggested readjustment after investigation, to give due regard, among other factors, to the general and comparative levels in market value of the various classes and kinds of commodities "as indicated over a reasonable period of years."

## Why the St. Paul Is Bankrupt

THE placing of the Chicago, Milwaukee & St. Paul in the hands of receivers naturally has caused much discussion of the reasons why this great system became unable to earn enough net return to pay its fixed charges. Its bankruptcy has been widely attributed to the policy of the management that preceded the present one in building the extension to Puget Sound. Its downfall has also been attributed to other mistakes in the use of capital resources which it has been claimed were made.

It may be that if the extension to the coast had not been built the St. Paul would still be a solvent property. To attribute its inability within recent years to earn its fixed charges mainly to the investment in its coast extension is, however, to ignore the true principal causes of its condition. Its bankruptcy was due mainly to the decline in the net operating income earned by it, and this in turn was due principally to economic conditions in the northwest and to the policy of regulation applied to it and other railways in the same territory. The proof of these statements is afforded by the statistics regarding the traffic, the total earnings and the net operating income of all the principal railways in northwestern territory.

The St. Paul's coast extension was placed in operation some years prior to 1916, but it has been since that year that the entire decline in its net operating income and

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that of other railways in the same territory has occurred. That the St. Paul has suffered since 1916 from loss of net operating income only slightly more than other roads in its territory, and actually less in proportion than some of them, is shown by the statistics given in Table I setting forth the net operating income of the seven principal roads in the northwest in 1916 and 1924. It will be seen that the decline in the net operating income per mile of these roads in this period of eight years was from 17 to 52 per cent, and that the average decline was from \$3,505 to \$2,176 per mile or 38 per cent. Four of the roads did not have to withstand, without assistance, the conditions to which they were subject. The Great Northern and Northern Pacific have had the support of the Burlington which they jointly own, the "Soo" the backing of the Canadian Pacific, by which it is controlled, and the O. W. R. R. & N. the backing of the Union Pacific, by which it is controlled. The Minneapolis and St. Louis, which also is in this territory, has become bankrupt, and it is a serious question if other large roads in the northwest would not have gone down if they had had to depend entirely on their own earnings.

The principal causes of the heavy decline in the net operating income earned by every railway in northwestern territory have been the decline in their passenger business, the failure of their freight business to increase normally and the relatively low freight rates fixed for them by the regulating authorities. The number of tons carried one mile by the Class I roads of the entire country in 1924 was 7½ per cent greater than in 1916 and the ton mileage

operating income, instead of being only about \$93,000,000, would have been about \$167,000,000 in 1924, and neither the St. Paul nor any other railway in the territory would have been in financial difficulties. If the average rate per ton per mile of the seven principal roads in the northwest had been only 50 per cent higher in 1924 than in 1913, and they had handled the business they actually did, the net operating income of these roads would have been \$30,000,000 more than it was, or about \$123,000,000, and the net operating income of the St. Paul would have been approximately \$10,000,000 more than it was, or about \$29,000,000. On this basis these roads would not have done as well financially as they did in 1916, but they would all have done much better than they actually did, and the St. Paul would have been a solvent property. Now, from an economic point of view there was no good reason why these roads should not have had in 1924 an average freight rate 50 per cent higher, instead of less than 41 per cent higher, than that which they had in 1913. The increases in labor costs and prices of material and supplies which enter into the operating expenses of the railways, and the prices of the commodities to which the rates were applied, would have amply justified freight rates on the northwestern roads averaging 50 per cent higher than those of 1913.

The foregoing facts show clearly what have been the principal influences which have so greatly reduced the net return earned by the northwestern roads and which have bankrupted the St. Paul. These have been influences applied by government regulation. The Transportation

TABLE I.—NET OPERATING INCOME OF SEVEN PRINCIPAL NORTHWESTERN ROADS

	Net operating income		Decrease	Dec. per cent	Averages per mile		Decrease	Dec. per cent
	1916	1924			1916	1924		
St. Paul .....	\$29,607,000	\$18,972,000	\$10,635,000	36	\$2,903	\$1,708	\$1,195	41
C. & N. W. ....	27,716,000	16,784,000	10,932,000	39	3,419	1,983	1,436	42
Omaha .....	5,861,000	3,409,000	2,452,000	42	3,343	1,949	1,394	42
Great Northern ..	28,842,000	24,201,000	4,641,000	16	3,562	2,933	629	17
M. St. P. & S. Ste. Marie.....	13,702,000	6,776,000	6,926,000	51	3,241	1,539	1,702	52
Northern Pacific ..	33,446,000	19,961,000	13,485,000	40	5,139	2,988	2,151	40
O. W. R. R. & N. ....	4,325,000	2,956,000	1,369,000	31	2,108	1,324	784	37
Totals .....	\$143,499,000	\$93,059,000	\$50,440,000	35	\$3,505	\$2,176	\$1,329	38

of all the railways in western territory 10½ per cent greater. On the other hand, the ton mileage of the seven principal roads of the northwest actually declined, being 40,974,000,000 in 1916 and 40,397,000,000 in 1924.

It is significant that in 1920 the freight business of these seven roads was 10 per cent larger than in 1916. Why was the gain made in these years completely lost in the subsequent four years? In 1920 these roads handled a large amount of transcontinental freight. Since then there has been a great increase in the movement of freight via the Panama Canal. In spite of this the railways have not been allowed by the Interstate Commerce Commission to reduce their rates to the Pacific coast to meet water competition. These facts largely explain the decline within the last four years in their freight business.

Meantime the northwestern roads have not been allowed to charge adequate rates on business not competitive with the Canal route. The average hourly wage being paid by them is roughly 160 per cent higher than in 1913. The average wholesale price of all commodities is about 60 per cent higher than in 1913, and the average freight rate of all the railways of the country about 55 per cent higher. Reductions of freight rates ordered by the Interstate Commerce Commission in 1922 made the average rate of the northwestern railways 14 per cent less in 1924 than in 1921, leaving it less than 41 per cent higher than in 1913. If, upon the freight business actually handled in 1924, the seven principal roads in the territory had received the average freight rate in effect in 1921, their net

Act imposed upon the Interstate Commerce Commission the duty of so regulating the railways as to enable each large group to earn a fair return. The Commission with respect to a large part of the railways has persistently failed and refused to perform this duty. It made reductions in rates in 1922, especially on agricultural products, which were not warranted either by the operating costs of the railways or by other conditions. It has persistently refused to let the western roads make readjustments of rates which would enable them to get more business to the Pacific coast. It has been perfectly obvious since 1922 that the western roads, and especially those of the Northwest, were not earning and could not earn, under the regulation to which they were being subjected, the return to which they were lawfully entitled and to which the Interstate Commerce Commission had specifically held they were entitled. This is the true principal reason why the St. Paul has become bankrupt and why all the northwestern roads are suffering from losses of net operating income equally great in proportion.

The Interstate Commerce Commission has shown admirable judgment and courage in resisting since 1922 political pressure to cause further unwarranted and ruinous reductions of rates. It is a pity it did not show this courage in 1921 and 1922, and it is to be hoped it will show it in making the investigation and findings regarding readjustment of rates which it has begun in accordance with a resolution of Congress. The bankruptcy of the St. Paul has been a severe blow to the confidence of investors

in railway securities. The Commission has itself held that it is its duty under the Transportation Act to let each large group of roads earn an average return of 5¾ per cent upon its valuation, but it has never yet performed this duty. The welfare of the railways and of the country demands that it shall in future perform it.

## Selection of Interstate Commerce Commissioners

THE efforts of President Coolidge to select a man for the Interstate Commerce Commission who would be acceptable both to himself and to the Senate has raised again the question whether members of the commission should be chosen because of geographical considerations, or because they are considered as representative in a general way of particular group interests, or because of their general qualifications for the office. No consistent policy has governed the selections in the past and members of the commission have been picked at different times for all of the above reasons, as well as, perhaps, for others.

President Coolidge, after having nominated Thomas F. Woodlock, a financial writer, to whom he has since given a recess appointment, indicated that he had been influenced largely by the need for a member of the commission who is thoroughly familiar with railroad financial matters, such as are involved in the cases before the commission on applications for authority to issue securities, for certificates of public convenience and necessity, for authority for one road to acquire control of another, etc., and on the consolidation question in general. The general reason advanced by Senators for having opposed his confirmation has been that the South is entitled to representation on the commission, although the southern Senators have been reinforced by some others who objected to Mr. Woodlock as a "Wall Street man." Those who have any confidence in Mr. Coolidge of course will not believe that he was seeking a representative of Wall Street but that he was seeking a man of a particular type of experience. It has been officially stated at the White House, since the Senate adjourned without confirming the appointment, that the President sympathized with the desire of the South for representation but had had difficulty in finding a man available from that part of the country of the type particularly needed by the commission just now, when it has so many important financial questions on its docket, although there were plenty of men available familiar with rate questions, in the South as elsewhere. He had offered the appointment to a South Carolina man of the desired type who had declined to give up his own business to accept it.

One difficulty with the idea of making geographical appointments is that there are more geographical regions in the United States than there are commissionerships. While it is probable that the selection of a man from almost any state in the South would be temporarily acceptable to the southern Senators, how long would Texas or other southwestern states be satisfied with a man from Georgia, or how long would Georgia and other southeastern states be content with a man from Texas? There is an even more serious question as to how long either would be satisfied after a southern man had been on the commission long enough to have some of his sectional ideas merged into a national point of view.

It is of course true that the South can point to a large group of states, including Virginia, North and South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas and Oklahoma, which

has no member on the Interstate Commerce Commission. Several more contiguous states might even be added to this list but these are the ones from which the complaint is supposed to be coming at this time. However, both the Southeast and the Southwest, which have somewhat different interests, have been outspoken in their demands that a member of the commission be chosen from their parts of the country. There are 39 states in the Union that now have no member of the commission, as Commissioner McManamy, although born in Pennsylvania, was appointed as from the District of Columbia, where he had been in the government service for many years.

The present members of the commission have been selected for various reasons. There are three from far western states, Aitchison from Oregon, Campbell from Washington and Hall from Colorado. There are two from Wisconsin, Esch and Meyer. Lewis is from Indiana and McChord is from Kentucky, while the eastern section is represented by Cox of New Jersey, Eastman of Massachusetts, and McManamy of Washington, D. C. Five of these were given their original appointments by President Harding and he also reappointed four of them, Commissioners Aitchison, Eastman, Meyer and McChord, while Commissioners Meyer and Campbell were reappointed by President Coolidge. President Harding on one occasion took the position that he was giving representation to group interests in his new appointments, although doubtless other considerations also had their effect, and it may be that the idea of "bloc" representation happened to fit the men he had chosen for other reasons.

Mark W. Potter, whose place President Coolidge has been trying to fill, was originally appointed by President Wilson, as the first railroad officer ever appointed to the commission. In the absence of confirmation by the Senate he had been given a recess appointment by President Wilson and later he was appointed by President Harding. Commissioner Esch was also appointed by President Harding, after he had failed of re-election to Congress, in recognition of his long experience with railroad legislation. After having later appointed Commissioners Lewis, Campbell, Cox and McManamy, President Harding said he had appointed Mr. Campbell as representing the agricultural interests, although it is also understood that his name had been urged upon the President particularly by representatives of that part of the country which desired to instill his fourth section views into the commission; that Mr. Cox represented the commercial travelers, and that Mr. McManamy was a representative of labor. It is also known that Mr. Cox's appointment had been strongly urged by a Senator from New Jersey who was one of the President's close friends and that Mr. McManamy also had some strong support other than that of labor organizations, aside from the fact of his former experience in the commission's Bureau of Locomotive Inspection. Mr. Lewis had been a state railroad commissioner.

In earlier days, when the commission was composed of a smaller number of members than it now has, first five, then seven, then nine, some efforts apparently were made in a general way to give representation to different large sections of the country, and President Roosevelt in 1906 had appointed Edgar E. Clark, then president of the Order of Railroad Conductors, to give representation to the railroad labor organizations, as well as because of his general qualifications. President Harding, however, seems to have definitely introduced the "bloc" idea in making commission appointments.

This plan is open to the same criticism as that against the idea of geographical selection, which has been suggested in several bills introduced in Congress to provide



for regional appointments to the commission. In the first place either plan, if rigidly adhered to, would greatly hamper the President in making selections, and there are not enough members of the commission to represent all the "blocs" any more than there are enough to represent all the states or regions. It has also been suggested that bloc representation has been partly responsible for the way in which the commission has divided in its decisions in so many important cases, which have been announced in the form of majority, dissenting and partially concurring opinions. Be that as it may, the commission is supposed to represent the interests of the entire public, which includes that of the railroads, the shippers, the passengers, labor and any number of other groups. Very few of these are entitled on any basis to be represented by as much as one-eleventh of the commission's membership. In view of the fact that railroading is the principal subject dealt with by the commission, we fail to see how any one can reasonably object to one railroad officer of broad experience among the eleven if he is otherwise qualified for public service, nor to a good man of similar broad experience as an industrial traffic manager, although he would probably be an ex-railroad man. Also the interests of labor are doubtless great enough to be considered if the idea of group representation is to receive any recognition. Beyond such large groups any attempt at bloc representation is likely to lead to discrimination.

An important objection to either bloc or geographical selection lies in the fact that men will differ greatly in the degree to which they remain subject to local or other influences. Just as some men in Congress devote most of their efforts to running errands or otherwise working for the interests of their own constituents, while others, particularly after having established a habit of re-election, seek to rise to the stage of statesmanship, some men when appointed to the commission for a seven-year term are likely, as a result of their experience, to gain a broader viewpoint than that of the interest they began with. Mr. Clark when originally selected was a representative of labor, but after he had served on the commission for a good many years we began to hear that labor was again demanding representation, President Wilson did appoint a vice-president of the American Federation of Labor, James Duncan, in 1920, at the same time he appointed a railroad president, Mr. Potter, although Mr. Duncan did not accept a recess appointment which carried no definite assurance of a salary. Also Kentucky was generally considered to be a southern state until Mr. McChord had been on the commission so long that he is now known as an Interstate Commerce Commissioner rather than as a Kentuckian or a southerner, and we again have a demand for representation from the South.

Texas is a large state, vitally interested in railroad questions, although it has been known to harbor some ideas of its own on the subject. So is California; so is Illinois; so is New York, none of which states has members on the commission. It has been suggested that some of the people in the Southwest and the Southeast who are now demanding representation think that too many of the present commissioners are from the Atlantic seaboard, too close to Wall Street, in spite of the fact that almost any close observer of the commission would say that Commissioners Cox, Eastman and McManamy show about as little evidence of Wall Street influence as any members of the commission. It has become a habit of the newspapers recently, since a typical New Englander became President, to try to size up a man by a description of the place he comes from, but the rule does not always work.

If President Coolidge could find a man outside of Vermont who in his opinion has the qualifications most desirable for the important position on the Interstate Com-

merce Commission, it would perhaps be a good thing if he could be found living at the geographical center of the South, which would be the largest open space on the map if large pins or stars were placed at the homes of the present commissioners. But the kind of man he appoints is far more important than the place where the man votes.

## Our Railway Employees Are Best Paid Workingmen

ARE the employees of the railways of the United States the best paid large body of workingmen in the world? The conclusion that they are seems justified by statistics regarding wages in this and other countries which recently have been compiled.

The International Labor Office at Geneva, Switzerland, recently published estimates of "real" wages in the United States and various European countries. By "real" wages is meant not merely the amount of money earned by the worker, but the amount of necessities and luxuries that he can buy with the pay he receives. Taking the "real" wages received by the average worker in the United States in July, 1924, as 100 per cent the International Labor Office found the comparative "real" wages paid in various countries in Europe were as follows:

Great Britain.....	50 per cent
Holland.....	45 per cent
Poland and Sweden.....	40 per cent
France and Norway.....	35 per cent
Belgium, Czechoslovakia and Spain.....	30 per cent
Austria, Germany and Italy.....	25 per cent

What these figures mean, of course, is that the average "real" wage paid in the various European countries is only from one-quarter to one-half as much as in the United States.

The "Ministry of Labor Gazette" of England recently published statistics which confirm the conclusions suggested by the average worker in the United States. Taking the "real" wages paid in London as 100 per cent it found that the "real" wages paid in typical centres of population and industries in other countries were as follows: In European countries from 29 per cent in Lisbon, Portugal, to 85 per cent in Amsterdam, Holland; in Sydney, Australia, 144 per cent; in Ottawa, Canada, 164 per cent; in Philadelphia 221 per cent.

These statistics from two different European sources show that, measured by their purchasing power, the wages paid in American industry generally greatly exceed those paid in other countries.

How, then, do the wages paid by the railways of the United States compare with those paid by other industries in this country? The National Industrial Conference Board from time to time publishes statistics showing the average wages paid in most of the large industries of the United States. The averages given by it are for workers of all classes from common laborers to the most skilled men. They are therefore comparable with the average wages earned by all classes of railway employees. A statement recently issued by the National Conference Industrial Board shows that in 17 industries in the United States (not including the railways) the average hours worked per week by employees in December, 1924, were 48 hours and that the average earnings made were at the rate of \$26.85 per week. In the same month—December, 1924—as shown by the statistics of the Interstate Commerce Commission, all employees of the railways worked at the rate of 48 hours per week and made daily and hourly earnings averaging \$31.25 a week. It will thus be seen that the average weekly earnings of railway em-

ployees exceeded by 16 per cent the average earnings of employees in the industries included in the survey of the National Industrial Conference Board.

In view of the facts that, first, "real" wages in the industries of the United States as a whole greatly exceed those paid in any other country, and, secondly, that the wages paid by American railways exceed those paid by other American industries, it seems necessarily to follow that the "real" wages received by the employees of our railways exceed those received by any other large body of working men in the world.

## Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

### Books and Pamphlets

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*Before the Interstate Commerce Commission. Testimony and Cross-examination of C. E. Michael. Subject—Cost of Bridges. Valuation Docket No. 343.* In the matter of the Valuation of the Property of the Norfolk & Western, Nov. 6, 1924. 21 p. Pub. by Secretary, Presidents' Conference Committee, Philadelphia, March 16, 1925.

*Epic of the Overland*, by Robert L. Fulton. 109 p. Pub. by A. M. Robertson, San Francisco, 1924.

*The Railways Act, 1921—Is It a Failure?* by E. Godfrey. 17 p. Great Western Lecture and Debating Society, London, England. Proceedings. Session, 1924-25. No. 176.

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*Citizenship of Industry*, by O. S. Beyer. New York Railroad Club. Official Proceedings. Feb. 20, 1925. p. 7583-7587.

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*Genius of Edward H. Harriman*, by Samuel M. Felton. American Magazine. April, 1925. p. 9-11, 184-188.

*History of the Great Northern Railway Company. Shipper and Carrier.* Feb., 1925. p. 5-10, 61.

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*Hoboken Shore Line Railroad Memorandum Is Submitted in Connection with Its Sale.* Port and Terminal. March, 1925. p. 15-16.

## New Books

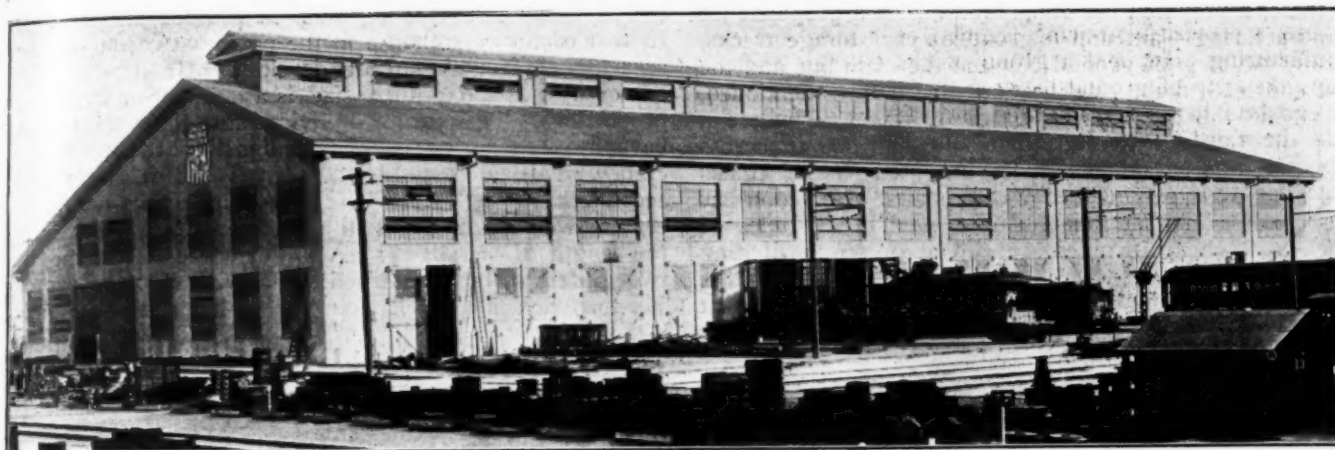
*Diesel-Electric Locomotives for Standard Gauge Railway Service.* By Dr. Eng. Herbert Brown, Baden, Switzerland, 68 pages. Published by Ernst Waldman Press, Zurich, Switzerland.

This short treatise, in German, considers the possibility of utilizing the Diesel motor for locomotives. In the first general part the currently proposed methods of power transmission—direct drive, change gears, electric and the combined Diesel-steam locomotive—are mentioned and the outlook for the possible application of each discussed. In the second part follows a more detailed study of the Diesel locomotive with electric transmission, which the author considers to be the most promising solution at the present time. The peculiarities of the Diesel motor are discussed from the point of view of the demands which are made in locomotive service. Special stress is laid on the problem of cooling, which is discussed on the basis of the known laws of conductivity in so thorough a manner that the author's conclusions are applicable to the cooling problem generally, as well as to its special application on the Diesel engine. The author is a member of the firm of Brown Boveri, Baden, Switzerland.

*Detailing and Fabricating of Structural Steel.*—By F. W. Denser, engineer, Gary plant, American Bridge Company. 512 pages. 6 in. by 9 in. Bound in cloth. Published by the McGraw Hill Book Company, N. Y. Price \$5.00.

This book, without doubt, had its inception in the drafting of regulations, standards and information sheets for the guidance of the detailers and designers employed under the author's direction and the object of the book is to provide clearly a large fund of information of specific value to the engineers and draftsmen employed in the drawing rooms of steel fabricating plants. However, a large part of the material in the book is of almost equal value to the structural engineer in the employ of railroads, as well as to the engineers on the division staff or in the construction engineer's organization whose duties require them to be conversant with the requirements and limitations of structural steel fabrication. In addition, a chapter on drawing room practice contains considerable information relative to the economies which may be effected in the preparation of drawings and will be of value to all who have responsibility for such work. In general the treatment is that of describing the various processes in the fabrication of structural steel, including the marking, shearing, punching, reaming, drilling, fitting, riveting, finishing and shipping of the fabricated steel and an explanation of the relation which these processes have to the manner in which the details must be worked out on the drawings. Special forms of construction are treated in separate chapters which cover such subjects as bridge work, office buildings, mill buildings, bridge machinery and tank work. Numerous drawings illustrate various details of steel structures.





The Coach, Steel Car and Blacksmith Shop and Transfer Table

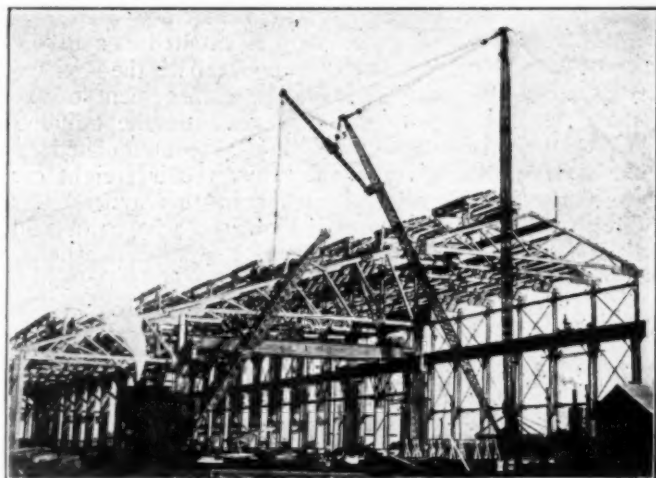
## Union Pacific Builds Large Shops of Timber and Sheet Iron

*\$300,000 was saved by this departure from conventional practice in developing new terminal at Los Angeles*

**S**CENES more akin to an earlier period in railway construction were re-enacted in Los Angeles, Cal., last year when the Union Pacific departed from the conventional use of brick, concrete and steel in building construction and erected large shop buildings in that city which are composed almost entirely of wood and sheet iron. This layout, which comprises large locomotive and repair shops, with an engine house, storehouse, etc.,

since this property became an integral part of the Union Pacific following the war. It also marks the further step in the shaping of a comprehensive plan of development for the region around Los Angeles, in which the Union Pacific has taken an active interest. As described previously in the *Railway Age*, this plan provides for a large manufacturing and industrial district in the open and extensive area east of the city limits of Los Angeles where a rapidly growing manufacturing district with large meat packing facilities has already been established and where the Union Pacific is developing a 700-acre industrial district. The new terminal is situated on a 230-acre tract immediately between these two districts. This is a strategic position for the terminal from the traffic standpoint while the number of cars and locomotives to be handled here, together with the operating advantages and the favorable supply of labor, clearly advised locating the new shops at this point also.

From head block to head block, East yard, as the new terminal is called, is about three miles long, but the length of the yard proper is closer to two miles. It lies immediately south of the main line to Salt Lake City, where it spreads out to a total width of 2,000 ft., affording ample room for the expansion of all facilities. That area adjacent to the main track is occupied by yard tracks which run east and west in four groups; a 1,000-car receiving yard of 10 tracks, 6 of which have been built; south of that, a 700-car future classification and eastbound departure yard of 7 tracks; to the south of that an 880-car classification and westbound departure yard of 13 tracks, all built, and finally a group of 11 tracks on 20-ft. centers with a capacity of 446 cars for equipment requiring light repairs. South of the ladders connecting these groups at the west end is another group of tracks which provides for a car cleaning and general car, coach and locomotive storage yard of a possible 17 tracks, all connected on the east, or shop end, by ladders serving as shop leads, while at the east end of the yard provision has been made for three other groups of tracks. Two



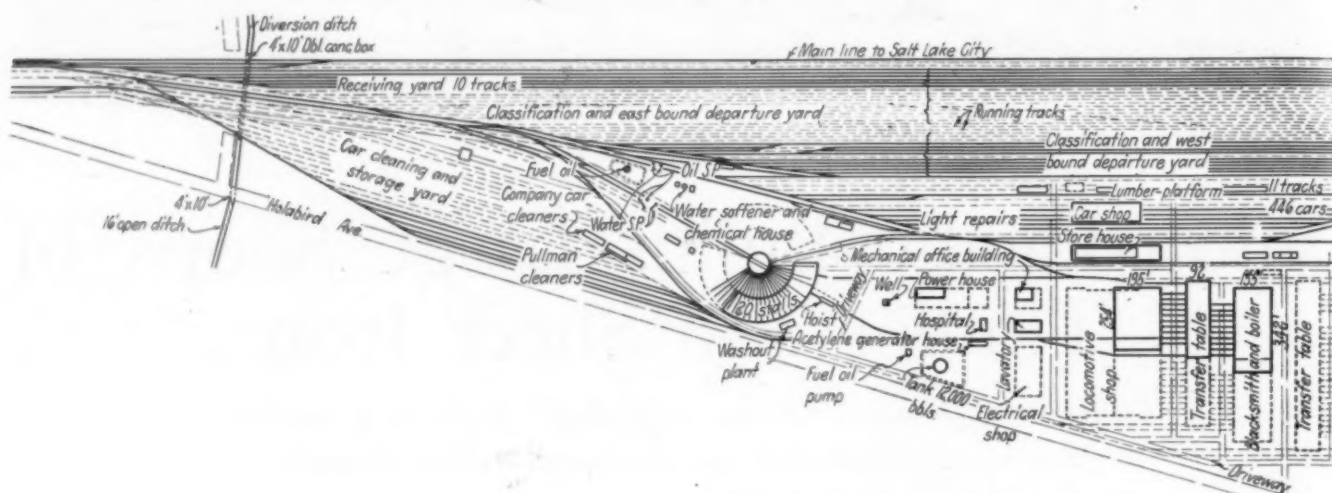
The Locomotive Shop in the Process of Erection

and required fully 2,500,000 ft. of timber, including pieces upwards of 90 ft. in length, all cut from virgin forest for this purpose, stands out as the principal feature of a new and extensive terminal development which the Union Pacific is projecting in that city. The use of wood in place of more prevalent materials reduced the capital investment more than \$300,000.

The new terminal is the most recent and important work carried out on the Los Angeles and Salt Lake line

of these, a proposed car icing layout with a proposed ice manufacturing plant and a group of car storage tracks, occupy the strip of ground between the main line and the east end lead to the classification yard before mentioned, while the third group lies south of this lead where a strip of ground nearly one mile long and 500 ft. across at the middle is laid out for 18 proposed parallel tracks and a shop for making heavy car repairs. Provision has thus been made, altogether, for a total of 70 miles of tracks, of which 28 miles are laid at present, including 20 miles in use prior to the shop construction and 8 miles laid last year. The yard tracks are laid on a 0.32 per cent

The locomotive erecting shop is situated about 1,000 ft. east of the roundhouse in the northeast corner of the area allotted for the future development and while but one-quarter of the ultimate size, is a building of imposing proportions. The interior is divided into three transverse bays by the line of columns supporting the roof and craneway. The east or main bay is 82 ft. wide and accommodates 10 engine pits served by tracks on 23-ft. centers which extend out to a transfer table. Traveling the length of this bay is a 200-ton crane, consisting of two girders of box construction, carrying two trolleys of 115-tons capacity which have a total lift above the rails



The Layout of the West End of the Present and Proposed Terminal Facilities

grade with modern 150-ton track scales located at the upper end so that, while the yard is extensive, cars can be classified easily and rapidly.

#### Numerous Buildings Are Provided

After having provided for all of the tracks mentioned there still remains in the terminal area to the south of these tracks a strip of ground ranging from 500 ft. to 1,000 ft. in width and nearly a mile long, which is laid out for a large engine terminal and shops. The ultimate plan allows for a 49-stall roundhouse, a 390-ft. by 508-ft. machine shop, a 155-ft. by 680-ft. blacksmith and boiler shop, separate car shops for light and heavy repairs, a storehouse and material yard and a separate coach and paint shop with also a general lumber yard, together with numerous subsidiary buildings. All tracks and pipe lines have been laid and all areas adapted to this ultimate layout. Obviously this plan will be carried out only as need for the buildings develops and financial conditions permit.

The provisions made for the present comprise 20 stalls of the engine house; a 195-ft. by 254-ft. locomotive erecting shop; a 155-ft. by 342-ft. coach, steel car and blacksmith shop; an 80-ft. by 280-ft. car repair shop; a 40-ft. by 114-ft. power house; a 28-ft. by 62-ft. oil house; a 42-ft. by 252-ft. two-story store building; a 22-ft. by 46-ft. hospital building; a 50-ft. by 70-ft. two-story office building; a 16-ft. by 53-ft. acetylene generator house and several toilet and locker buildings.

The roundhouse is situated at the west end of the shop area where it is most accessible to the yard and is built to fit the circle of the ultimate building. It has stalls 105 ft. in length, contains a drop pit for two tracks, includes a 100-ft. electrically operated turntable and is equipped with a boiler washing plant and also with a Whiting locomotive hoist. The latter is installed behind the building on a track extending through the house to the machine shop lead.

of 43 ft. and are equipped with 10-ton auxiliary hoists. In this bay provision has also been made for a future 20-ton crane which will span the bay 16 ft. above the top of rail. The center bay, for the presses and other heavy machinery, is 70 ft. wide and is traversed throughout its length by a 20-ton crane carried 28 ft. 6 in. above the floor, while the west bay is 41 ft. 6 in. wide. Herein are the tool room and space for small machine work.

The blacksmith and boiler shop is situated east of the erecting shop where it occupies about half the area of the ultimate building. Pending the enlargement of the terminal to its ultimate size, however, and the building of a separate coach and paint shop as contemplated on a site farther east and also the heavy repair freight car shop which was mentioned earlier in this article, this building will serve the purpose of a coach, paint and steel car shop as well as a blacksmith shop, while boiler work will be carried out in the steel car and blacksmith shop. This building is also divided into three bays. The north bay is 79 ft. wide and 40 ft. 6 in. high and encloses the blacksmith shop and three tracks for steel car repairs. Provision is made for the installation of a 20-ton crane in this bay. The central and south bays, which enclose the paint, coach and an upholstering shop, are respectively 37 ft. 6 in. wide and 34 ft. 10 in. wide and 22 ft. 6 in. high. Communication between this building and the locomotive erecting shop is accomplished by a 92-ft. transfer table which extends several feet beyond each end of the locomotive shop to connect with the lead to this shop at the south end and the running track to the freight yards and store facilities on the north end.

#### Well Arranged Store Layout

The storehouse occupies a strip of land about 200 ft. wide lying between the locomotive and blacksmith shop on the south and the car repair track on the north. This building, which is in part a two story structure,

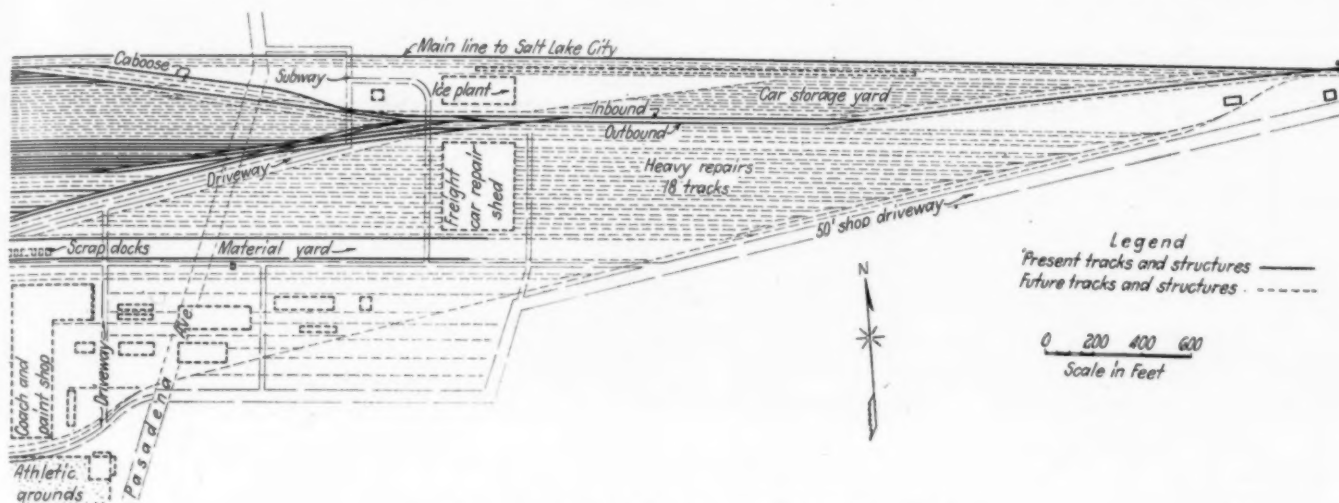


has 12,000 sq. ft. of platform at car door level, extending between the storehouse and a track on either side and also has 100,000 sq. ft. of additional ground platform for heavy castings and other materials not requiring shelter, together with a scrap dock and a few necessary sheds. Provision is also made for the erection of crane-ways 1,600 ft. long with a 60-ft. span for the handling of heavy sheets, castings, etc., and the entire strip devoted to the storehouse service is free of obstructions for a distance of nearly a mile east to allow adequate room for expansion.

Included among the remaining buildings in last year's

by extending the house. The stacks are supported on concrete foundations and anchored by  $\frac{5}{8}$ -inch cables.

The oil house is built adjacent to a through spur connecting the running tracks to the storehouse where cars can be spotted for filling without obstructing track operation. Following out the Union Pacific's standard plan for such facilities this building has a basement and 2,300 sq. ft. of concrete platform car door high and is fully equipped with modern pumps, tanks, bins, barrel racks, etc. The acetylene generator house is also built adjacent to a track, being on the main lead to the erecting and boiler shop, which simplifies the supply problem and



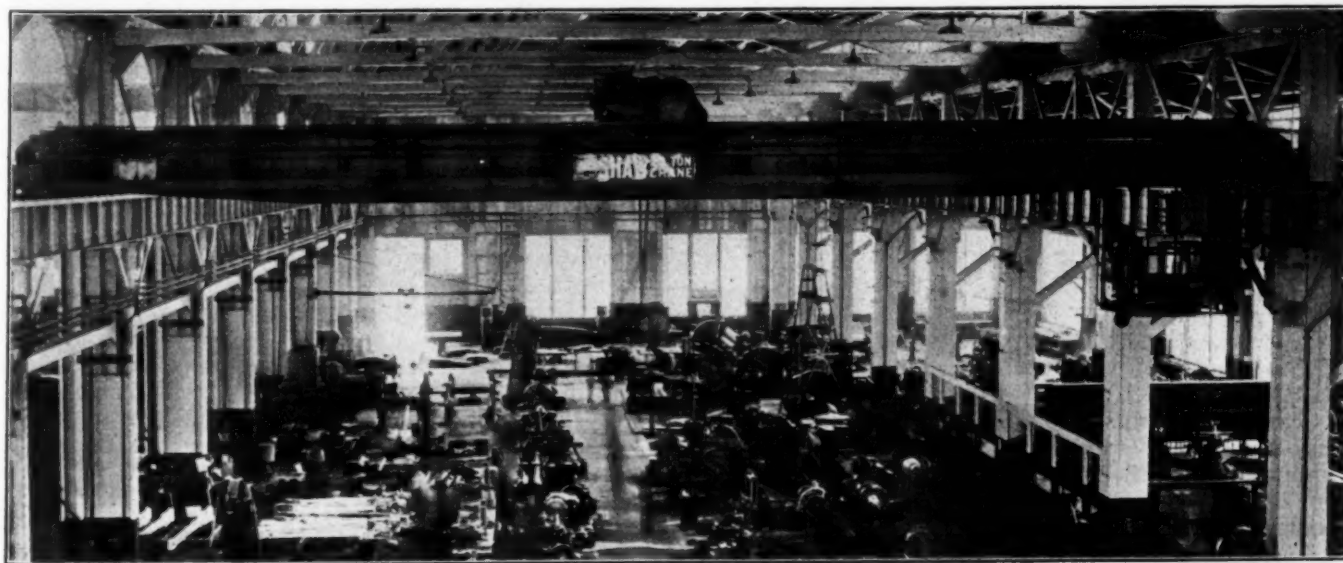
The East Half of the New Layout at Los Angeles

development work is the 80-ft. by 280-ft freight car repair shop which is situated about 100 ft. north of the storehouse in the yard built for light repairs (although it is to be used for the time being for all car repairs except those on steel cars) while the power house, office building, acetylene generator house, hospital and oil house all occupy sites in the area between the roundhouse and the locomotive erecting shop. The power house contains three stationary water-tube boilers with the usual outlay of pumps and compressors. Each boiler has a 39-in. by 90-ft. steel stack and is fired by oil burning equipment. Their total capacity is 712 hp. When an increase in the capacity is required it may be accomplished

facilitates the distribution of containers to the roundhouse and shops. However, the distribution of gas for local use is accomplished chiefly by a system of piping to stations established throughout the terminal.

#### No Coaling Station or Cinder Pit

In the new terminal the familiar coaling station and cinder pits are conspicuous by their absence. This results from the use of oil as fuel for firing all locomotives on the Los Angeles & Salt Lake, as well as for use in all stationary boilers and furnaces within the terminal. Provisions for handling this fuel comprise a 12,000 bbl. fuel oil storage tank situated within an earth dike in the area



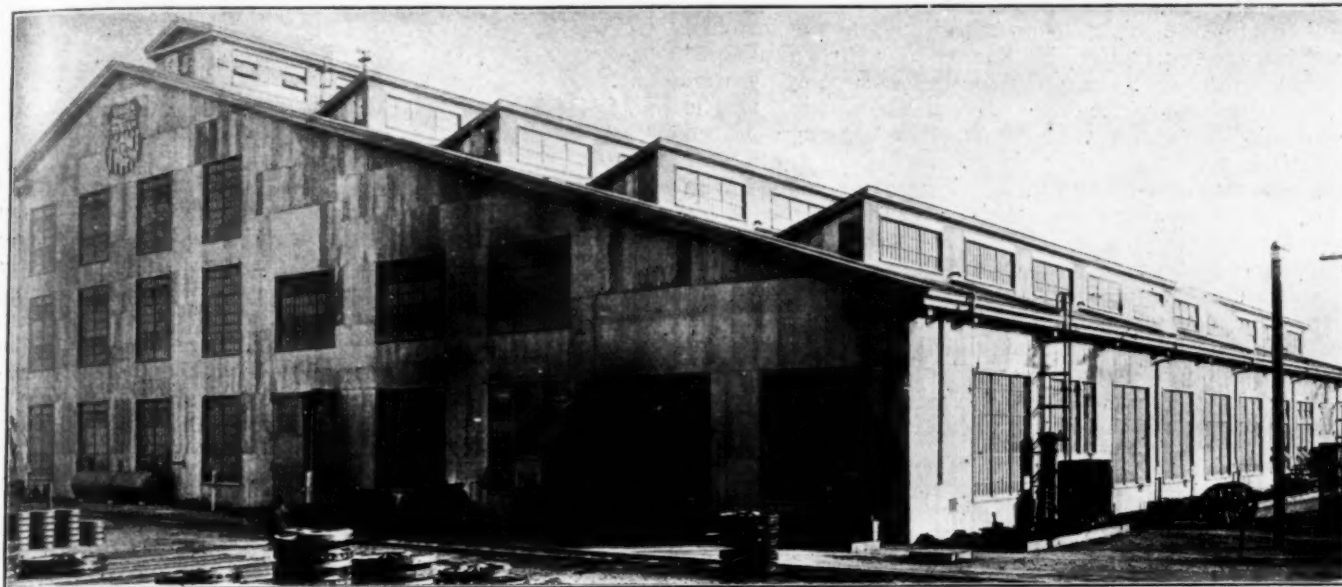
A View of the Machine Floor of the Locomotive Shop





milling companies on the northwest coast. This lumber, all of which was carefully selected and milled in the vicinity of the stands from which it was cut, was loaded on lumber boats and thence shipped to San Pedro harbor, where the lumber was placed on cars directly from ship's tackle. The largest timbers in these shipments were the

used for erection purposes. This crane carried a 70-ft. boom and assisted a full swing Guy derrick having a 115-ft. mast with a 100-ft. boom and a 20-ft. extension. With this derrick located in the bay adjacent to the Industrial crane, the raising of the largest trusses, all framing of which had previously been completed, was



The Locomotive Erecting and Boiler Shop, Showing the Saw Tooth Roof Construction

columns for the locomotive erection shop which are 20 in. by 24 in. in section and 60 ft. long, and the bottom chords of the longer trusses in this shop, which are 16 in. by 16 in. in section and 90 ft. long. The latter timbers required three flat cars for loading and handling in trains.

Upon arrival at the new terminal the timber was unloaded in framing yards established inside the several

easily accomplished, while in raising the smaller trusses only the derrick was required.

The framing of the trusses was accomplished with the aid of a templet. This templet was first assembled and checked to prevent possible error. After framing the timbers for one-half of the truss the framing of the other half of the truss was accomplished by merely reversing



A Portion of the Forward End of the Locomotive Shop, Showing the 200-Ton Crane

buildings, this system having been adopted to avoid duplicate handling. All concrete foundations and column footings were completed prior to the arrival of the lumber and temporary erection tracks were laid through the buildings for receiving the cars of lumber and to accommodate the movement of an Industrial traveling crane

the templet. All boring of holes for truss rods, etc., was done by means of electrically driven drills, the largest holes being three inches in diameter. When framed the rods were tightened to provide camber, that of the largest trusses being  $1\frac{3}{4}$  in. All framing having been completed, bridles were placed around the trusses, which were then

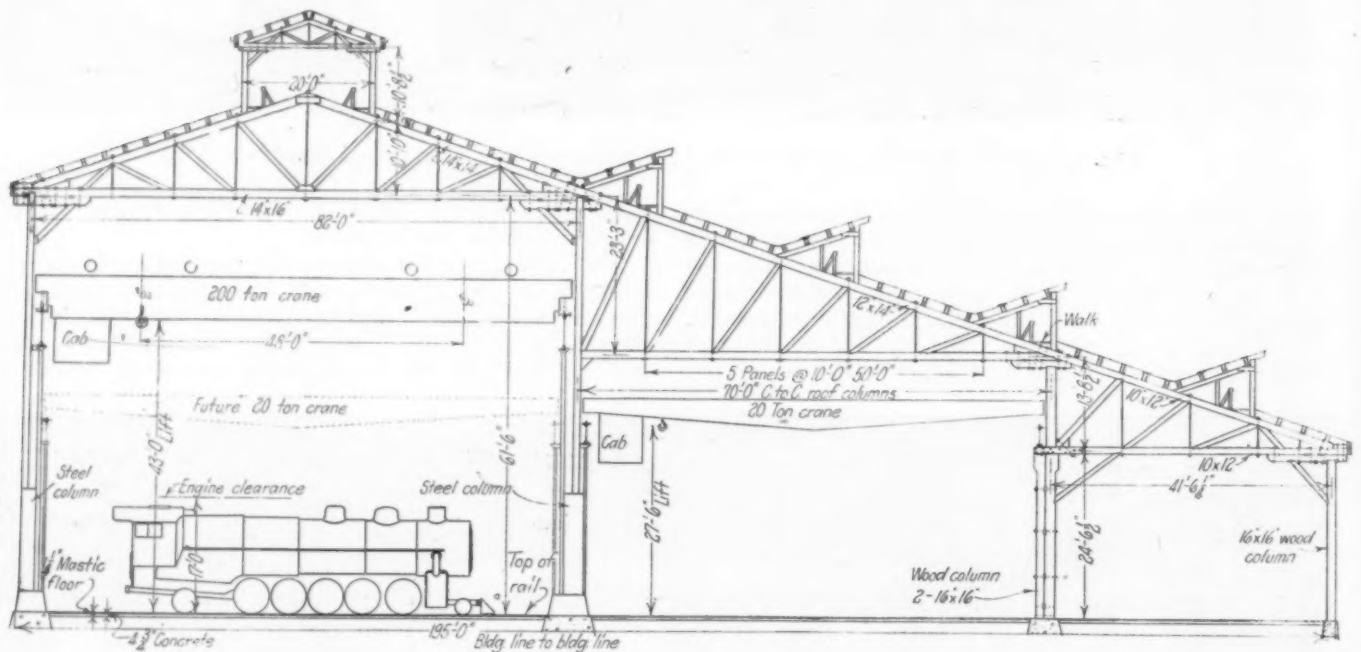
hoisted into position from the floor on columns previously erected by means of the guy derrick and crane. The largest trusses are 61 ft. above top of rail. The strength and stiffness of the trusses were such that no racking or twisting was experienced in the process of raising and the entire erection was carried out simply by moving the derrick and crane back one panel at a time.

The only use made of structural steel in the terminal was in the locomotive erection shop. Structural steel columns were erected in the main bay to support the roof trusses and carry the loads of the heavy cranes. The roof of the buildings consists of No. 20 gage Armco corrugated galvanized iron sheets and the sides of No. 22 gage Armco iron, while all windows are equipped with metal sash containing wire glass with pivotal panels for ventilation. Lighting is provided in the roof by monitors supplemented, in the case of the locomotive and blacksmith shops, by a saw tooth roof construction. This type of construction, by breaking the long slope of the roofs in these buildings, serves also to render the buildings more attractive than they would otherwise be. The appearance of the shops is enhanced by the type of floor used, which consists of a layer of mastic  $1\frac{1}{4}$  in. thick,

Company and H. W. Baum Company, both of Salt Lake City, Utah, handled the construction of the buildings. All piping, sewerage and electrical work, together with the moving of old machinery and various facilities from the old terminal and the installation of all new machinery, was handled by railroad forces. The entire project was completed by May 1, 1924, and is now in operation.

## Disastrous Tornado Damages Railways in Middle West

**H**EAVY property damage and the loss of many lives were caused by a tornado which swept over southern Illinois and Indiana on Wednesday afternoon, March 18. The railways whose lines entered the devastated region were among the heaviest sufferers. Property damage estimated at well over \$2,000,000 and the loss of the lives of at least 40 employees were suffered by the Southern, the Mobile & Ohio, the Chicago & Eastern Illinois, the Missouri Pacific, the Chicago, Burl-



A Cross Section of the Locomotive Shop

laid on a  $4\frac{3}{4}$ -in. concrete base except for the blacksmith and car repair shop where cinders are used; also by the orderly arrangement of the machinery. This machinery comprises that taken from the old and abandoned terminal at Fourth street, Los Angeles, together with about 70 new machines of the latest types and is with few exceptions electrically driven.

For the drainage of the area on which the buildings are located as well as the area occupied by the tracks during seasons of high water, a concrete lined ditch has been constructed at the west end of the yard. This ditch is a mile long and has a cross section of 80 sq. ft. It diverts all storm water away from the terminal directly into the Los Angeles river.

The new terminal was designed and constructed under the direction of the engineering department, Union Pacific system. The Utah Construction Company, Ogden, Utah, handled the grading for the shop grounds and classification yards, and the Lynch-Cannon Engineering

ington & Quincy and the Illinois Central. The tornado first struck east of the Mississippi river in Missouri, damaging the Missouri Pacific at Annapolis, Mo. It then swung in a semi-circle south of St. Louis, and passed through Murphysboro, Ill. It turned again about 50 miles north of that point and proceeding in a southeasterly direction, wiped out Princeton, Ind., and then ended.

The Southern was the most heavily damaged, its shops at Princeton, Ind., being wiped out with a loss estimated at over \$1,000,000. The buildings demolished included a 32-stall roundhouse, blacksmith shop, office building, paint shop, car shed and coal chute. Fortunately the shop forces quit work at 4 p. m. so that they had left the buildings before the tornado struck and demolished them 15 minutes later. As a result, only two employees were killed.

The Mobile & Ohio suffered most heavily at Murphysboro, Ill., where its shops were totally destroyed. Twenty-nine employees at this point were killed. The



property demolished included a roundhouse, storehouse, reclamation shop, car repair shed, freight house and some 60 freight cars and 5 passenger cars. The property damage was estimated at \$750,000.

Six employees of the Chicago & Eastern Illinois at West Frankfort, Ind., were killed in the storm. The



A Coal-Car Body Which Was Lifted from Its Trucks and Deposited Among the Trees 500 ft. from the Track

buildings destroyed included a six-stall enginehouse, water tank, coaling station, yard office, scale house and other small buildings, the total loss being \$52,000. A number of cars and locomotives were also damaged and one mile of telegraph line was wiped out. At Princeton



Fire Completed the Destruction of the Mobile & Ohio Shops at Murphysboro, Ill., After the Storm Had Passed

the C. & E. I. lost two and one-half miles of telegraph line and suffered slight damage to equipment. The deck of one of its bridges was blown away and at one point 600 ft. of track was lifted off the roadbed and deposited some distance to one side.

The Missouri Pacific lost its shops at Bush, Ill., with \$63,000 damage, as well as a bridge over the Big Muddy river. The depot and coal chute at Gorham, Ill., were destroyed, as were the depots of Murphysboro, De Soto



All That Was Left of the Six-Stall Enginehouse of the Chicago & Eastern Illinois at West Frankfort, Ill.

and Annapolis, Mo. The total property loss was \$180,000. One employee at Bush was killed.

The Chicago, Burlington & Quincy suffered a total damage of \$15,000 to its property.

The Illinois Central suffered the loss of its station at De Soto, Ill., and a pumping station at another point. A bridge over the Big Muddy river was shifted six feet out of line at the south end and 22 in. out of line in the opposite direction at the north end. The bridge was not



All That Was Left of One of the Southern's Shop Buildings at Princeton, Ind.

slid out of line but was lifted from its foundations and then dropped. No passengers on trains of the roads in the devastated region were killed or injured.

All the railways entering the damaged territory placed their resources at the disposal of the Red Cross and other agencies which carried aid to the injured and homeless. More than 50 special trains carrying doctors, nurses and supplies were operated by the Illinois Central alone from a number of points on its line. The first specials left Chicago and St. Louis within a few hours after word of the disaster reached headquarters. In addition the Illinois Central provided a special train to carry the injured from Murphysboro to a hospital in East St. Louis. The Pull-

man Company also provided the use of its cars for quarters for the medical forces in the field. The Missouri Pacific ran special trains with doctors and food supplies to Annapolis, Mo., and Gorham, Ill. Its work train bunk cars were also rushed in to provide living quarters for the homeless.

## Freight Car Loading

WASHINGTON, D. C.

**R**EVENUE freight car loadings declined in the week ended March 14 to a total of 924,149 cars, or less than the total for the first week in March, although this was an increase of 7,387 cars as compared with the figure for the corresponding week of last year and an increase of 20,033 cars as compared with 1923, and the cumulative total for the year to date is still slightly above that for last year. Increases as compared with last year were shown in the Pocahontas, Southern and Southwestern districts but other districts showed decreases. There were also increases in the loading of forest products, ore, merchandise and miscellaneous freight, the latter of which showed a gain of 27,482 cars as compared with last year, but reductions were shown in the loading of grain and products, livestock, coke and coal. The latter showed a decline of 21,408 cars to 149,105 cars, which is very low for this time of year. The increases as compared with 1923 were reported in the loading of forest products, merchandise and miscellaneous freight, while the other classes of commodities showed decreases. The summary as compiled by the Car Service Division is given in the accompanying table:

REVENUE FREIGHT CAR LOADING—WEEK ENDED SATURDAY, MARCH 14, 1925

Districts	1925	1924	1923
Eastern .....	219,597	224,268	225,622
Allegheny .....	192,506	193,997	201,839
Pocahontas .....	42,116	39,217	35,544
Southern .....	156,715	144,468	145,542
Northwestern .....	112,799	120,339	110,859
Central Western .....	133,724	134,466	130,228
Southwestern .....	66,692	60,007	54,482
Total Western .....	313,215	314,812	295,569
Commodities			
Grain and grain products .....	37,045	42,546	39,282
Livestock .....	27,493	31,517	30,030
Coal .....	149,105	170,513	183,377
Coke .....	12,747	13,675	15,323
Forest products .....	81,979	79,748	73,985
Ore .....	12,068	10,901	12,818
Merchandise, l. c. l. ....	259,489	251,121	229,192
Miscellaneous .....	344,223	316,741	320,109
Total .....	924,149	916,762	904,116
March 7 .....	930,009	929,381	905,344
February 28 .....	862,910	944,514	918,624
February 21 .....	925,295	845,699	830,187
February 14 .....	902,877	935,589	816,646
Cumulative total, eleven weeks .....	9,924,477	9,772,232	9,463,648

The freight car surplus is increasing. For the week ended March 7 it was 279,430 cars, including 138,045 coal cars and 98,315 box cars. For the week ended March 14 it was 295,939 cars, including 151,828 coal cars and 100,995 box cars.

The Canadian roads for the first week of March had a surplus of 28,900 cars, including 24,650 box cars and 300 coal cars. For the week ended March 14 the surplus was 28,465 cars, including 24,165 box cars and 300 coal cars. The railroads of this country, during the first ten weeks this year, handled successfully the greatest volume of freight ever carried by them at this season of the year, according to a statement issued on March 20 by the board of director of the American Railway Association.

On January 6, 1925, the Car Service Division estimated that during the first three months of 1925, 11,844,125 cars would be loaded with revenue freight, the greatest number for any similar period on record, exceeding by 256,851 cars or 2.2 per cent the corresponding period in 1924.

From January 1 to March 7, inclusive,—ten weeks—

9,000,328 cars have actually been loaded. This exceeded by 0.3 per cent the estimate made by the Car Service Division as to what the total would be for those weeks. For the ten-weeks period, total loading of revenue freight has exceeded by 144,858 cars, or 1.6 per cent, the corresponding period last year when the previous high record for this season of the year was established. It also has exceeded by 440,796 cars, or 5.1 per cent, the corresponding period in 1923. The bulk of the increase so far in 1925, compared with last year, has come principally from manufactured products or commodities used by the manufacturing industry. Loading of miscellaneous freight totaled 3,024,617 cars from January 1 to March 7, inclusive, an increase of 115,685 cars, or 4.0 per cent, compared with the same period last year. There also has been an increase of 13.6 per cent in the number of cars loaded with ore and a 5.3 per cent increase in the number loaded with coke. Merchandise and l. c. l. freight amounted to 2,365,826 cars, an increase of 91,128 cars, or 4.0 per cent, over the first ten weeks in 1924.

Owing to the fact that the bulk of agricultural products was moved last fall and early in the winter, there has been a decrease in the number of cars loaded with such commodities during the ten-weeks period.

Loading of grain and grain products, for instance, has amounted to 457,708 cars, a decrease of 2.0 per cent under the same period in 1924, while there has been a decrease of 2.8 per cent in live stock loadings, the total for which amounted to 331,355 cars. Coal loading also has shown a decrease of 3.2 per cent, the total for the ten weeks being 1,842,231 cars, compared with 1,903,814 cars for the same period last year.

While revenue freight loading has been the heaviest in history for this season of the year, there has been a general upward tendency in the number of surplus freight cars in good repair and immediately available for service. On January 1, 1925, class I railroads reported 266,252 surplus freight cars, while on the same date the previous year there were 312,338 cars. The railroads on March 7, 1925, had 279,430 surplus freight cars in good repair and immediately available for service, an increase of 13,178, compared with a number at the beginning of the year and an increase of 135,004, compared with the number of surplus freight cars on March 7, 1924.

The railroads on March 1, 1925, also had 4,988 serviceable locomotives in storage compared with 3,800 on the same date the previous year, or an increase of 1,188 locomotives. They also had 139 more serviceable locomotives in storage on March 1 than on January 1, this year. On March 1 there were approximately 6,000 fewer freight cars in need of repair than on January 1, this year.

### Car Loading in Canada

Revenue car loading in Canada during the week ended March 14 showed a slight increase over the previous week, as a result of heavier loading in grain, lumber, pulpwood, other forest products and miscellaneous freight. The decrease of 5,165 cars from the corresponding week of 1924 was caused principally by smaller harvest and lighter loading of grain and shutdowns in the coal mines.

Commodities	Total for Canada			Cumulative totals to date	
	Mar. 14 1925	Mar. 7 1925	Mar. 13 1924	1925	1924
Grain and grain products....	6,432	6,238	7,716	70,493	90,545
Live stock .....	2,074	2,267	2,313	24,565	22,989
Coal .....	2,635	4,152	6,085	61,867	52,106
Coke .....	494	339	205	3,611	2,926
Lumber .....	3,239	2,862	4,647	30,870	34,231
Pulpwood .....	4,563	3,725	4,932	44,848	42,252
Pulp and paper .....	2,187	2,418	2,255	23,412	23,945
Other forest products .....	3,817	3,377	3,523	36,173	33,990
Ore .....	1,300	1,277	980	12,671	9,797
Merchandise L. C. L. ....	14,716	14,779	13,590	149,959	135,280
Miscellaneous .....	10,864	10,269	11,240	106,193	110,817
Total cars loaded .....	52,321	51,703	57,486	564,662	558,878
Total cars received from connections .....	35,869	33,285	40,213	365,006	378,438



# Freight Claim Payments Decrease

*Suggestions for further reducing loss and damage made by  
A. L. Green, special representative*

**F**REIGHT claim payments during the year 1924, reported by 209 carriers in the United States and Canada, amounted to \$48,262,543 as compared with \$49,540,377 in 1923, thereby showing a decrease of \$1,277,834 or 2.6 per cent. Loss charged to entire package, other than entire package, defective or unfit equipment, robbery of entire package and other than entire package and error of employee, amounted to \$12,166,818 or 25.2 per cent of the total, compared with 29.9 per cent in 1923 and 36.2 per cent in 1922. Total damage consisting of unlocated damage, rough handling of cars, improper handling, loading, unloading or stowing, defective or unfit equipment, improper refrigeration or ventilation, freezing or heater failure, concealed damage, wrecks, and fire or marine loss or damage, amounted to \$28,488,128 or 59 per cent of the total as compared with 56.6 per cent in 1923 and 53.4 per cent in 1922. Total delay amounted to \$7,607,597 or 15.8 per cent of the total, compared with 13.5 per cent in 1923 and 10.4 per cent in 1922.

The freight loss and damage situation was described by A. L. Green, special representative, Committee on Freight Claim Prevention, American Railway Association, before a meeting of the Eastern Claim Conference in New York on March 18 as follows:

As reported by carriers embracing 95 per cent of United States and 60 per cent of Canadian mileage, also member steamship lines, freight claim payments for 1924 amounted to \$48,262,543, which is 2.6 per cent or \$1,277,834 less than the 1923 total. Deducting a salvage credit of \$739,971, also Canadian and steamship lines payments the United States total was \$46,022,563 and the ratio of gross freight earnings was 1.06 per cent, compared with 1.05 per cent in 1923. This does not mean that the claim prevention—or perhaps better termed freight protection—movement is losing ground, or even standing still. Three abnormal conditions raised the 1924 ratio considerably, to wit: Perishable freight claims arising from the 1922 shopmen's strike aggregating \$2,000,000, inter-carrier responsibility for most of which was in dispute were finally charged off in the 1924 accounts; the suspense account holding unadjusted inter-carrier claims was reduced by \$1,459,227 in 1924 and gross freight earnings were reduced 6 per cent resulting from a substantial drop in coal and heavy loading freight tonnage while merchandise and manufactured articles, which relatively produce more claims, moved in heavy volume. Moreover, 2,498,790 freight loss and damage claims were presented in 1924 compared with 2,833,984 in 1923, a decrease of 11.8 per cent, and at the close of December, 1924, there were 23 per cent fewer claims pending than at the corresponding time in 1923.

All things considered, the year 1924 may be regarded as one of the solid achievements, both in improving the technique of claim prevention and in raising the standards of freight service. Fundamentally, conditions are right for a substantial reduction this year. Barring the unforeseen, and if present plans for revitalizing the interest of employees mature, it is probably safe to assert that the total for 1925 can be cut to 40 million dollars.

Much credit is due the freight claim prevention and police departments for their effective cooperation with one another and the very considerable advance made in the

method of connecting claim causes. Whether we again cut loss and damage in half, as we all set out to do a year ago, will depend upon the extent to which prevention methods are further diversified and made more effective. This means that loss and damage must be reduced to \$25,000,000 per annum, or 7 million dollars below the 1914 figure. It can be done easily, but not without some increase in the forces specially engaged in prevention, their education in certain matters which have been neglected and a great deal more fact finding and analyzing.

The Wall Street analysts and railway executives and writers are pointing to the tremendous reduction in loss and damage as one of the really big accomplishments of the carriers since federal control. The figure for 1920 is generally put at 120 million dollars. It was more like 175 millions, for express claims aggregated 22 millions in that year and the picture is not complete without adding the cost of adjusting approximately 6,500,000 freight and express claims, also the cost of recovering several million packages that failed in transit. The American Railway Express Company has made great progress. In 1924 its claims amounted to less than 5 million dollars. Not to be overlooked or undervalued, has been a large amount of research and education in packing and package requirements which has been carried on quietly by a number of trade association executives and committees in their particular lines of business.

One of the amazing accomplishments has been the improved efficiency in the handling of and protection of L. C. L. freight. Take as examples, the reductions in the claims paid on shoes and the dry goods group, over 90 per cent of which are for shortage. In 1921, shoe claims totalled about 3 million dollars; in 1924 only ½ million. The reduction from 1923 was 34 per cent. Clothing, dry goods and notions cost around \$12,500,000 in claims in 1920; for 1924 these claims were only \$2,238,000. Losses of entire packages (cause undetermined) which reached a peak of 19 million dollars in 1920, were only \$3,370,000 last year, and if adequate attention had been paid to the shortages from carload shipments of package freight which amounted to \$868,000 in 1924, the total probably would have gone below 3 millions. Compare this item to 1914 when these claims, on a 50 per cent lower price level exceeded 5 million dollars. Compare the claims paid last year because of the depredations of thieves with conditions in 1914. Probably not in the last twenty years, taking into consideration the amount of business handled, and certainly not in the last ten years, has L. C. L. freight service been as safe and dependable as it was last year. This is freight claim prevention at its best. Not so good with the carload problem, which has never been properly analyzed and studied.

What of the future? It may be assumed that the splendid progress in reducing L. C. L. losses will be continued. Aside from certain container and packing factors this problem is almost wholly within carriers' control. The carload problem is not one whit more difficult except perishable freight, but it is largely within shippers' control and probably it will cost the railways considerably more to get the facts which will enable them to bring the claims down. The compensation will be greater.

Based upon observation of practices and results on a

number of the larger systems, it would appear that adequate results cannot be expected by leaving claim prevention to the general operating organization. While it may be argued that the operating department is responsible for practically all claim causes, experience amply demonstrates that there is as much need for specializing in claim prevention in a separate department, as for most of the other specialized lines of work. Unfortunately, some roads are not yet adequately organized for effective claim prevention. Hence they are paying out thousands, and even hundreds of thousands of dollars in easily preventable damage claims; they are unable to fulfill their obligations to other carriers to assist them in removing the causes of claims, and, of supreme importance, public relations suffer because of so many points of irritation over delayed, lost and damaged shipments. Does a good prevention department pay? Is not the answer to be found in the fact that such departments often "collect" from one to several hundred thousand dollars a year in preventable claims?

Altogether too much prevention effort goes to waste. Freight checkers should be educated to make more intelligent and complete reports. As the report is the foundation for all successful prevention, it is evident that if substantial improvement could be made here it would be reflected in better service and claims saved.

One of the best illustrations of effective reporting is the Boston and Maine handling of the grape business at Boston last season. Each damage was intelligently reported in detail, accompanied by a photograph showing the condition and as often as possible, the fault in each case. If the carload problem is to be tackled in earnest, no better instrument could be found than the camera. A shipper will act on what a picture shows when a written description invites argument and defense. How much stronger the lesson when impact register tapes showing rough handling are accompanied by pictures of the disastrous effect on the lading?

One of the important phases of prevention which has been undervalued by the individual road is the large amount of damage caused by the use of unsuitable containers, improper interior packing and unscientific crate design. Probably one crate out of every two could be improved and even greater improvement is possible in the method of fastening or floating articles in crates so the crate instead of the contents will take up shocks in handling. It is not generally known that the facilities of the Forest Products Laboratory of the U. S. Govern-

ment at Madison, Wis., are available to shippers for improving their packing and crating. The only conditions are that the service shall be paid for and the record open to public inspection. Several container manufacturers maintain testing laboratories and give free advice to their customers or prospective customers and there is also a laboratory at Rockaway, N. J., where containers are redesigned as a business.

As far as we know, no road has in its employ a prevention inspector who is thoroughly familiar with packing and container questions. Before we can hope to cope with this problem it will be necessary to educate quite a number of prevention representatives in the A B C's of correct packing and container practices. As a starting point, the Committee on Freight Claim Prevention will shortly announce a week's special course of training at the Forest Products Laboratory, for railroad and express employees only. An outline of the subjects to be covered will be furnished, and the fee will be made as light as possible. If we get 30 applications the fee probably will not be more than fifty dollars. It is earnestly hoped that the railroads will respond heartily to this opportunity and if they do, there will be available enough qualified men to make some valuable container studies at representative points. Such a course probably could be followed up later with three or four day courses at New York and Chicago, consisting of lectures by eminent classification and container authorities, special laboratory tests and visits at various box factories. Education along these lines will enable a railroad to offer advisory service to its customers which ought to help from the competitive as well as the prevention standpoint.

The motion picture presents another opportunity to reduce claims. Unquestionably visual education here is superior to all other forms. A thorough investigation has been made of the feasibility of using small-size cameras and films. Films that cost around \$30,000 to produce are now available for reproduction to the members at a mere fraction of their original cost. A complete outfit, including copies of 15 or 20 films with individual road advertising eliminated, cameras for taking and projecting pictures, etc., can be obtained for \$500 or \$600. These cameras, with carrying cases, weigh only 20 lb. A circular on this will soon be issued. No better investment could be made than to buy this outfit and stimulate the interest of employees from one end of the line to the other by showing them, on the screen, how freight should be handled, cars sealed, and the results of careless work.



First Locomotive Repaired at Finley Shops of the Southern at North Birmingham, Ala.—Received Class 3 Repairs in 13 Eight-Hour Working Days



# Canadian Pacific 1924 Operations

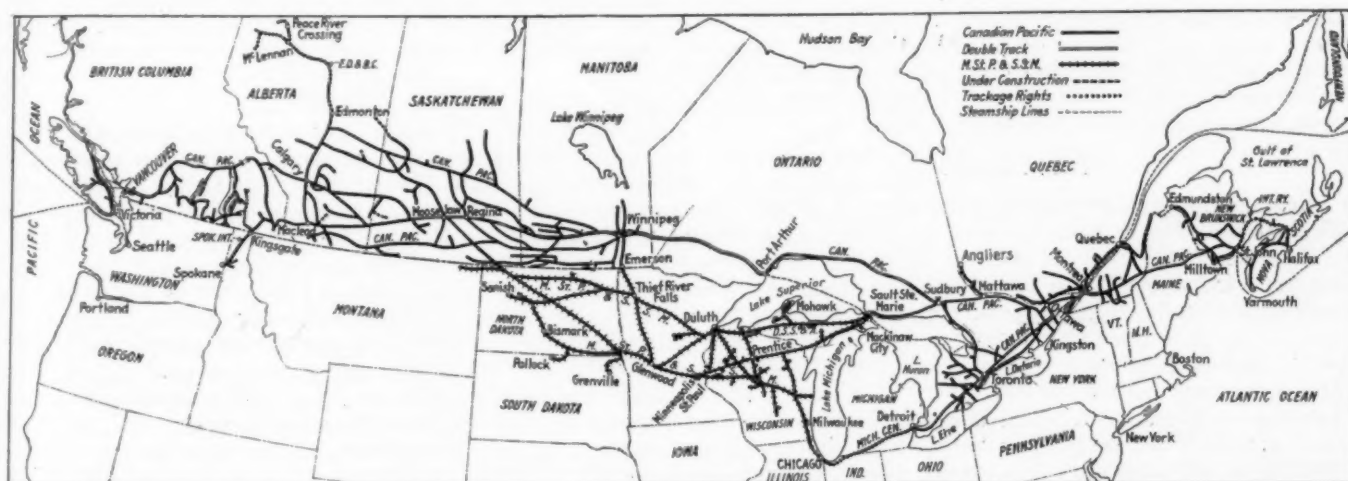
*Gross earnings decrease only 7 per cent in spite of marked reduction in Canadian wheat crop*

ONE of the several factors that assisted in bringing to an end the late agricultural depression in the United States was the circumstance of a large wheat crop in this country in 1924 and the sale of that crop at a high price. The high price resulted principally from the fact that there was a poor wheat crop in Canada. In fact, the crop in Canada was only slightly more than one-half the production of 1923. There is no carrier in North America, the prosperity of which depends more upon the welfare of the wheat farmer than the Canadian Pacific, either from the standpoint of the traffic in wheat itself or the transportation of the commodities bought with the proceeds of the sale of the wheat. Realizing the adverse character of the conditions that must have ruled in Canada in 1924, it is surprising to see to what a small extent the Canadian Pacific was affected. Of course, it is true that there was a record-breaking wheat crop in 1923 which presumably gave the agricultural sections of Canada substantial buying power in the early part of 1924. Fur-

system of 20,000 miles of railroad. It operates its own sleeping and parlor car services, its own express company, its own commercial telegraph and news services, its own hotels and, in addition to all these, it operates a fleet of some 60 ocean and coastwise steamships aggregating 417,506 gross tons. A person can go from the Atlantic to the Pacific on the Canadian Pacific rails, or he can travel from London to Japan or China on Canadian Pacific ships and railroad lines.

Of the mileage of 20,000, there are 14,062 included in the Canadian Pacific traffic returns. The mileage of other lines operated totals 992, and at present the company has 175 miles under construction, these three categories making a total of 15,229. In addition, the Canadian Pacific controls through stock ownership 5,117 miles of railroad in the United States, including the Minneapolis, St. Paul & Sault Ste. Marie, 4,404; the Duluth, South Shore & Atlantic, 615, and the Mineral Range, 98.

The Canadian Pacific is characterized by its con-



The Canadian Pacific

thermore, while the 1924 Canadian crop was small, it was sold at high unit prices.

The Canadian Pacific's gross income from railroad operations in 1924 was but 7 per cent less than in 1923. The reduction in operating expenses was sufficiently substantial so that the net from railroad operations was almost the same as in 1923. This was, however, a decrease in what the Canadian Pacific terms its "Special Income." The net corporate income available for dividends totaled \$32,628,207, equivalent after the dividends on the preference stock to \$11.01 a share on the ordinary stock. The net corporate income in 1923 totaled \$34,899,409, equivalent to \$12.00 a share on the ordinary stock.

## Extensive Operations

It has been said frequently that there is no railroad property in the United States that compares quite with the Canadian Pacific. The Union Pacific, with its enormous investment in and large revenue from securities of other carriers, is our nearest approach to it but even the Union Pacific is hardly comparable. The Canadian Pacific is a

servatism, particularly from a financial point of view. Its railroad properties are carried at a value of \$641,212,727, and its ocean and coast-wise steamships at a value of \$60,146,629. The balance sheet shows acquired securities held at a cost value of \$137,353,287. Of particular interest is the total of \$182,557,174 representing investments and available resources, including the deferred payments on lands and townsites, miscellaneous investments (including the stock of the Soo Line, etc.) and assets in lands and properties remaining unsold. It is the last item that is of particular interest. The Canadian Pacific in 1924 sold about 100,000 acres of land at an average of \$18.50 per acre, or, excluding about 7,000 acres of irrigated land, at an average of \$15.90 per acre. The agricultural lands still unsold are mostly held at an average value of \$13.00 and some at a much lower figure. There are 3,000,000 acres of coal right reserved under land sold and unsold in Alberta, to be developed on a royalty basis, held at a total figure of \$100. Similarly, there are natural gas rights reserved on 100,000 acres of land also in Alberta, and also held at \$1.00 but from which

lands the Canadian Pacific in 1924 received revenue of no less than \$315,776.

### Conservative Capitalization

The capitalization of the Canadian Pacific is unusually simple. There is outstanding an issue of \$3,650,000 Algoma branch first mortgage 5 per cent bonds. The principal bonded debt, however, is in the form of the so-called 4 per cent consolidated debenture stock of which there is now in the hands of the public a total of \$264,244,882. This is a bond rather than a stock. It is without maturity, and is a prior charge on earnings. There were outstanding on December 31, 1924, \$10,790,000 of equipment obligations. The Canadian Pacific has outstanding two classes of stock, the preference and the ordinary. The preference stock totals \$100,148,588 and receives 4 per cent. The ordinary stock totals \$260,000,000 and has received dividends in every year since 1882 with the single exception of 1895. Since 1912, it has received dividends of 10 per cent. In 1924, the Canadian Pacific sold in London £1,400,000 of its 4 per cent preference stock and in New York \$10,000,000 of its debenture stock. It also sold \$12,000,000 ten-year collateral trust gold notes, secured by \$15,000,000 of the debenture stock and \$30,000,000 4½ per cent sinking fund secured note certificates, secured by the assignment of unpaid purchase moneys or deferred payments on lands sold.

The interest on the last named issue is not a fixed charge on the railroad operations. At the end of the year there was a cash balance of \$42,405,206, about the same as at the end of 1922, and comparing with \$27,303,369 at the end of 1923. The Canadian Pacific, at the present time, has a surplus of \$248,000,000.

### 1924 Results

Gross earnings from railroad operations in 1924 totaled \$182,502,156, and \$195,837,090 in 1923, a decrease of 7 per cent. Of the 1924 total, \$123,505,140 represented earnings from freight and the remainder earnings from passengers, mails, sleeping cars, express and miscellaneous. The 1924 operating expenses (inclusive of taxes, parlor and sleeping car expenses, etc.) totaled \$145,274,914 comparing with \$158,358,080 in 1923, which was a decrease of 8 per cent. The decrease in transportation expenses was 9 per cent. The result of the slightly larger decrease in expenses than in revenues was to maintain net earnings of \$37,227,242 about on a par with the figure for 1923.

From its railroad earnings the Canadian Pacific pays its "fixed charges," which in 1924 totaled \$14,070,287, the 4 per cent dividends on its preference stock, and 7 per cent of the 10 per cent dividends on its ordinary stock. The surplus after these deductions was, in 1924, \$463,614.

This was below average. In 1924, the surplus after dividends was \$1,633,347. Figures for other years are given in the table.

### Special Income

It was noted above that the Canadian Pacific pays 10 per cent dividends on its ordinary stock, of which 7 per cent is from railroad operations. The other 3 is paid from "Special Income," which includes the earnings from investments, interest on deposits and interest and dividends on other securities, the net earnings of the ocean and coastal steamship lines and the net earnings of the commercial telegraph and news department, hotels, etc. This special income totaled, in 1924, \$9,971,252, and was slightly below the average which has been about \$11,000,000. In 1923, special income totaled \$11,391,052. The earnings from steamship operations were about \$600,000 less than in 1923, although larger than in most previous years. There was a similar decrease in earnings from the telegraph and news department, hotels, etc. There was an increase of no less than \$1,500,000 in interest on deposits, but this was balanced by a decrease of about the same amount in net revenue from investments, due largely to the failure of the Soo Line to earn its dividends. Even with the decrease in total special income in 1924, there was left after the 3 per cent dividends paid from this source a surplus of \$2,171,252. In computing the earnings on the ordinary stock (\$11.01 in 1924) the special income is included. The net earnings from railroad operations and the special income combined make a total sufficient to cover fixed charges over three times.

### Expansion

The Canadian Pacific does not show in its annual report a classified commodity statement, such as is required in the reports of the United States carriers. It does, however, show a tabulation of the amount of grain carried in bushels, of the lumber in feet, the live stock in numbers, the manufactured articles in tons, etc. Each of the several items shown was less in 1924 than in 1923 with the exception of live stock and "all other articles." The grain traffic totaled 231,805,276 bushels comparing with 268,667,055 in 1923, a decrease of 14 per cent. Even with this decrease the grain carried in 1924 exceeded in amount that carried in most previous years, 1916, 1922 and 1923 being the only exceptions. This situation presumably results from the steady expansion of the Canadian wheat areas and the like steady expansion of the Canadian Pacific. Thus, the mileage included in the C. P. R. traffic returns in 1922 was 13,536; in 1923, 13,658 and in 1924, 14,062.

At the present time the Canadian Pacific has 175 miles of line under construction. More exactly, in 1924, 227 miles of new line were graded and 214 miles of track laid

CANADIAN PACIFIC OPERATING RESULTS, SELECTED ITEMS, 1914 TO 1924.

Year ended June 30	Mileage	Revenue tons	Revenue ton miles	Revenue tons per mile of road	Rev. per ton miles cents	Revenue train load	Revenue car load	Gross earnings	Working expenses (inc. taxes)	Net after taxes	Operating ratio	Surplus* after 7% dividends
1914	12,044	27,801,217	10,821,748,859	896,470	0.75	407	20.15	\$129,814,824	\$87,388,896	\$42,425,928	67.32	\$9,698,254
1915	12,917	21,490,596	7,940,151,342	625,338	0.77	411	19.13	98,865,210	65,290,582	33,574,628	66.04	89,915
1916	12,994	29,276,872	14,057,685,773	1,070,068	0.64	503	22.90	129,481,886	80,255,965	49,225,921	61.98	15,444,159
YEAR ENDED DEC. 31.												
1916	12,989	30,168,798	14,931,739,090	1,133,343	0.65	519	22.87	139,729,687	89,253,188	50,476,499	63.88	.....
1917	13,389	31,198,685	14,882,991,224	1,129,908	0.70	539	23.77	152,389,335	105,843,317	46,546,018	69.46	12,420,916
1918	13,389	29,856,694	13,014,665,922	991,680	0.85	530	23.90	157,537,698	123,025,310	34,502,388	78.10	2,203,621
1919	13,389	25,102,821	11,121,322,012	840,928	1.00	498	22.08	176,929,060	143,996,024	32,933,036	81.39	844,250
1920	13,402	30,160,134	13,994,508,975	1,066,401	1.04	529	23.44	216,641,349	183,488,305	33,153,044	84.70	450,359
1921	13,444	23,710,606	10,811,087,106	818,743	1.19	519	24.21	193,021,854	158,820,114	34,201,740	82.28	755,391
1922	13,536	27,744,586	12,977,400,058	976,479	0.99	534	24.53	186,675,036	150,373,345	36,301,691	80.55	1,025,509
1923	13,658	30,852,994	14,500,617,325	1,087,711	0.93	535	24.83	195,837,090	158,358,079	37,479,010	80.86	1,633,347
1924	14,062	28,776,386	12,648,622,773	930,564	0.98	520	24.05	182,502,156	145,274,914	37,227,242	79.60	463,614

\* The Canadian Pacific pays fixed charges, the 4 per cent dividends on its preference stock and 7 per cent dividends on the ordinary stock from its railroad earnings and in addition 3 per cent dividends (making a total of 10 per cent) on the ordinary stock are paid from "Special Income." Fixed charges in 1924 totaled \$14,070,287. Dividends on the preference stock from 1924 income totaled \$3,993,342 and 7 per cent dividends on the ordinary stock totaled \$18,200,000. "Special Income" totaled \$9,971,252.



on lines previously authorized. At the stockholders' meeting to be held shortly, authority will be asked to approve the issue of debenture stock for the construction of a total of 176 miles, exclusive of the 39-mile Langdon North branch to be built jointly with the Canadian National, previously authorized. In 1924, the company spent \$4,417,251 for the construction of branch lines, and there was spent for improvements to present lines the sum of \$8,123,585, exclusive of any expenditures for equipment which, however, were small. These sums were slightly smaller than in 1923, but much above the average for preceding years. Just now the company has two important projects in hand. One is the grade crossing elimination at Toronto. This will mean a line to connect with the new station commenced in 1915 but not yet in use, and the cost will be shared with the Canadian National and the city. The other project is the reconstruction of Lake Louis Chalet, a portion of which was destroyed by fire last July.

The familiar picture of Canadian Pacific to those on the United States side of the Canadian border is its remarkable skill in handling tourist traffic, particularly in the Canadian Rockies, where one finds excellently appointed trains, stations and hotels, and a savoir faire and courtesy that makes the trip a pleasure from every point of view. These things are likewise a feature of Canadian Pacific passenger service throughout Canada, so that it is not by chance that Canadian Pacific passenger earnings are so large a proportion of gross income as they happen to be. The competing Canadian National has a high standard set for it to rival.

#### Grain Traffic

One does not see the true picture of the prairie provinces in riding through them. The fields of grain and the three or four grain elevators strung along the track at every station, large or small, tell only a small part of the story. The rest is to be found in the operating problem of moving the vast Canadian wheat crop to market. The grain moves in a period of but 90 days between the time of harvest and the close of navigation on the lakes. West of Winnipeg the Canadian Pacific lines fan out in numberless branches. The grain comes into Winnipeg over these branches and from there moves over the double track line to Port Arthur and Fort William whence it is transhipped to vessels for movement to Buffalo or to such points as Port McNicoll, Ont., where it is again put in cars for movement to Montreal.

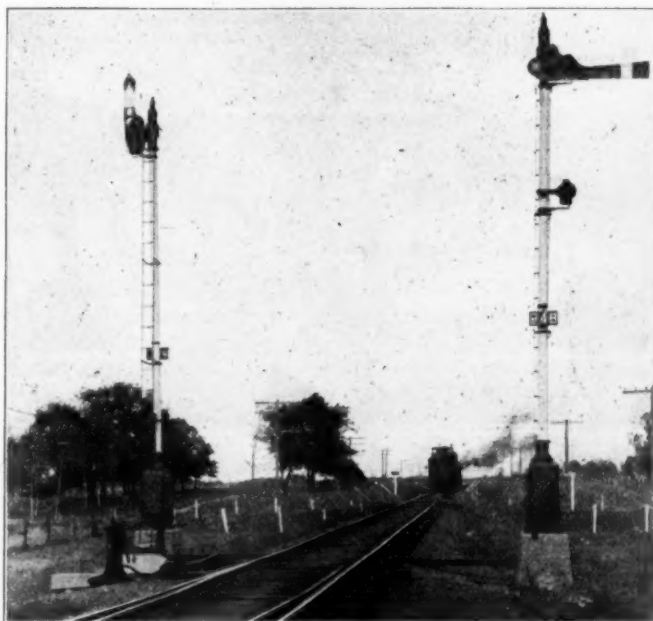
D. C. Coleman, vice-president of the C. P. R. western lines, once outlined the importance of Winnipeg as a primary grain market by pointing out that in the period from September 1 to December 1, 1922, the receipts of grain at Minneapolis totaled 45,969,100 bushels whereas those at Winnipeg totaled 108,231,514 bushels. The problem of moving this grain is one of preparation, which means that the entire western end of the system must be put in preparation months ahead to handle the traffic without delay. Cars are stored in the prairie provinces as early as March; the large Strathcona yard at Winnipeg is used only when the volume of grain is at its peak, etc. There is thus an enormous investment idle throughout most of the year. The wonder is that, with this situation, the Canadian Pacific can handle its traffic with average receipts of but 0.98 cents per ton-mile and still earn from its railway operations consistently 7 per cent on its ordinary stock. This, in the last analysis, is the real testimony of the Canadian Pacific's excellence of operation and management. There is no intention here of contrasting the privately owned lines of Canada with the government lines. It is generally believed, as a matter of fact, that the Canadian Pacific will suffer severely if it alone contents

itself to live upon its past performances, so excellent has become the competing service of the Canadian National.

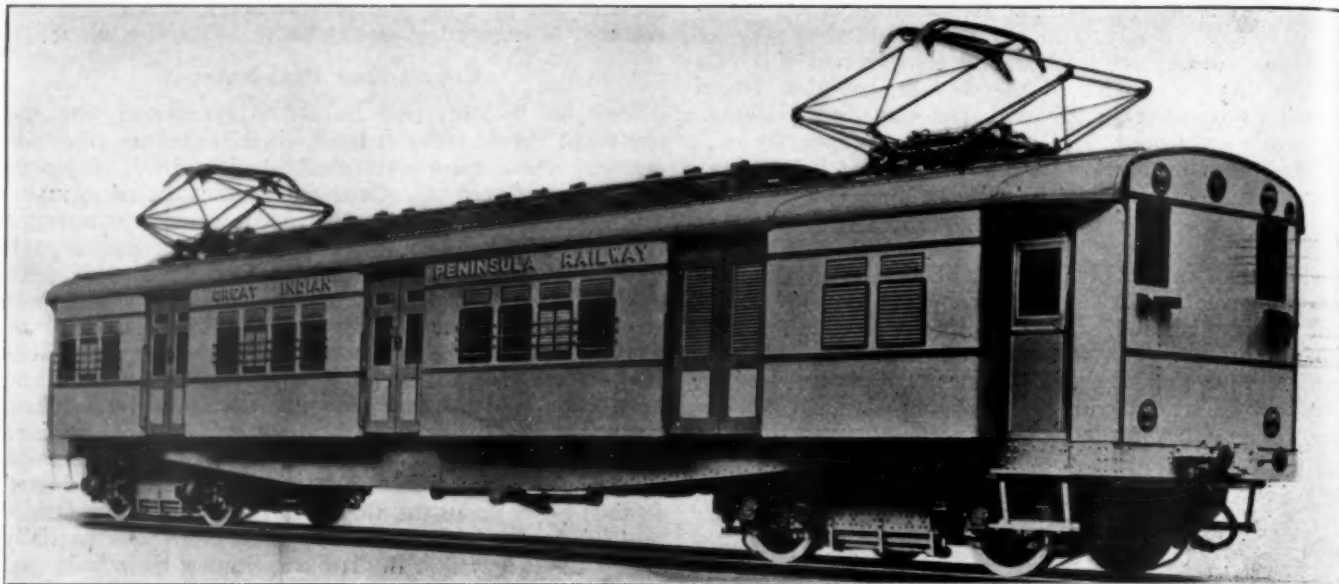
#### Crow's Nest Pass Rates

The one disconcerting feature in connection with the Canadian Pacific today is the Crow's Nest Pass rates situation. These rates were established in 1897, under an agreement whereby the Canadian Pacific offered to maintain low rates to and from the prairie provinces in return for a subsidy covering the construction of a line through Crow's Nest Pass. The Crow's Nest Pass rates were suspended shortly after the war and this suspension was renewed from year to year by the Privy Council of Canada, which is the cabinet acting for the Governor General. Last year the Privy Council failed to renew the suspension and so early in July the rates returned to force, but they were made to apply to only those stations in eastern Canada in existence at the time the agreement was made. The railways and communities discriminated against appealed to the Board of Railway Commissioners and this board, in October, suspended these rates partially under the theory that the law constituting their body and defining its duties was subsequent to the Crow's Nest Pass act and that the Crow's Nest act, being prior to and contradictory to the powers conferred upon the Board, they were not governed by the act; so the Crow's Nest Pass rates were abolished. A short time ago, however the Canadian Government ordered the rates to be restored. Meantime the prairie provinces had instituted a suit in the courts against the invalidation of the Crow's Nest rates by the Board and the decision of the Supreme Court of Canada was announced a week or two ago. This decision sustained the attitude of the prairie provinces; i.e., that under the legislation as it now stands the Crow's Nest rates must stand, on the ground that the rates were statutory and not subject to review by the Board of Railway Commissioners.

The government has announced, however, that it will propose legislation to bring about a solution of the rate problem during the present session of Parliament. The Canadian Pacific takes the view that matters of this kind should be left in the hands of the rate regulating authority.



Typical Absolute Signal at End of Passing Track Protecting Rear of Train on the Northern Pacific



Multiple Unit Car for The Great Indian Peninsula Railway in India

## Bombay Suburban Electrification

*Motor cars are effectively fire-proofed and are designed to run through water two feet deep*

**E**LECTRIC railway service was inaugurated on February 3, 1925, on the Bombay Harbor branch of the Great Indian Peninsula Railway in India. The present electrified section extends north and east from the Victoria terminal a distance of 12 miles; this includes 28 miles of single track. The total route-mileage on com-

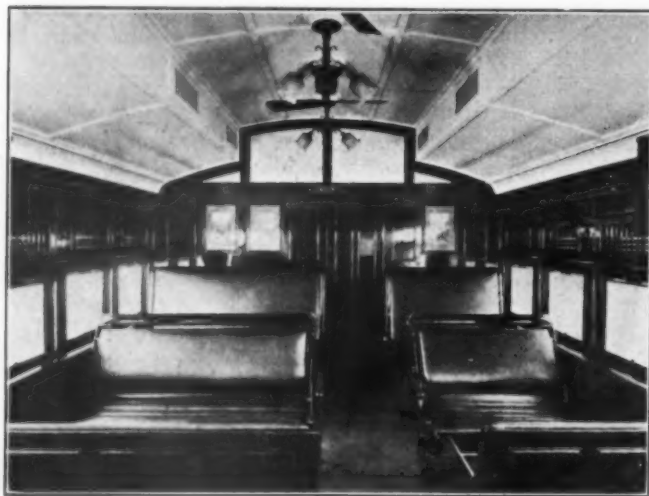
converted and delivered to the single-catenary overhead contact system as 1,500-volt direct current power.

The catenary is made up of 37 gage, .115-in. copper and the contact wire is of the grooved type .125 sq. in. in sections, making a total section of copper of .625 sq. in. per track. The relatively heavy contact wire used is of assistance in preventing the formation of "hard spots" due to action of the pantographs. The track rails are bonded with two bonds per rail joint. These are provided with solid heads which are expanded into holes in the web of the rail, and in order to make theft difficult they are installed under the fishplates which are of special design to give the required clearance.

### Rolling Stock

The trains are made up in units of four cars, each unit consisting of one motor car and three trailers; normally trains will consist of eight cars. The contract for cars, which was awarded to Cammell Laird & Company, included 13 motor cars, 26 driving trailer cars and 13 trailer cars 12 ft. wide and 25 motor cars 10 ft. wide. The length of the 12-ft. coaches is 68 ft. and the height from rail to top of roof 13 ft. 8 in. The trailers weigh 82,800 lb. and the motor cars weigh 142,800 lb. The larger coaches are capable of carrying 200 passengers.

Owing to their unusual width and the existing platforms, a special design has had to be embodied in the coaches, there being a considerable amount of body overhang on each side of the underframes, which are of the solebar carrying type. The coaches are fitted with central automatic couplers of the M. C. B. type, and side plungers are provided to ensure easy riding. On each side of the trailer coaches are three doorways, each 4 ft. 4 in. wide and provided with a pair of sliding doors, while doorways 2 ft. 4 in. wide and with a hinged door opening inwards are provided at each end. The floor is



Interior of a First Class Coach

pletion of the suburban electrification will be 45 and the total mileage of single track 128. Four tracks will be equipped as far as Kurla and two tracks from Kurla to Kalyan.

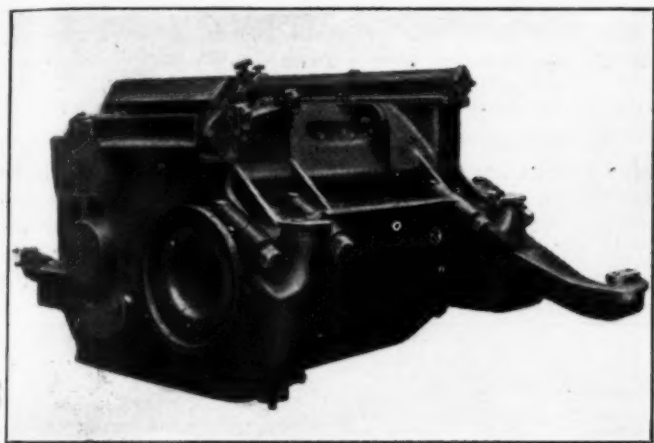
Power is purchased from the Tata group of hydro-electric supply companies. It is supplied to the substations as 22,000-volt, 50-cycle, three-phase power and there



of Decolite composition laid on dovetail sheeting, and asbestos has been used in the construction of the roof and sides of the vehicles.

The whole of the electrical equipment on the coaches, with the exception of the lighting and ventilating, was supplied by The English Electric Co., Limited, the consulting engineers on the electrical portion of the contract being Merz and McLellan.

There are four motors on each motor coach, connected together in pairs in permanent series, the two pairs being

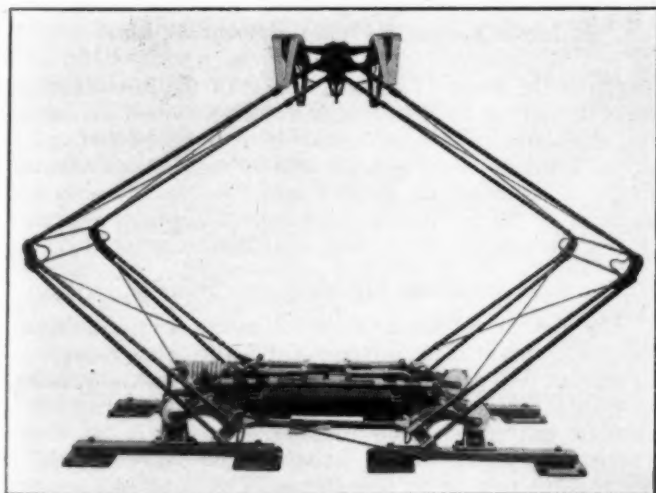


Commutator End of One of the Driving Motors Showing Ventilating Valves for Use on Flooded Track

controlled by the ordinary series parallel method. They are a self-ventilated railway type and develop a rated horsepower of 275 each at 700 volts. The power circuits are so arranged that the field and interpole coils of all the motors are always on the earth side of all the armatures.

#### Precautions Against Water

It is noteworthy that the new trains will be required during the monsoon period to run over flooded portions



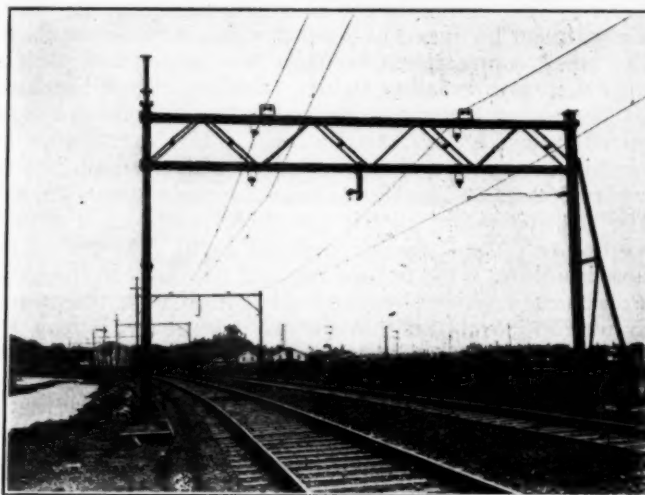
One of the Vacuum Operated Pantographs

of the line, when the depth of water will be as much as 2 ft. above rail level. In such circumstances the motors are liable to be almost completely submerged, and special steps have, therefore, been taken to meet this condition. All the oil fillers and the commutator covers have been provided with water-tight joints, and special air valves have been provided for the inlet and exhaust openings for the ventilating air. These valves can easily be closed by

means of a special spanner, so that during flood times the motors will run as totally enclosed motors.

#### Control Gear

The control gear is of the "English Electric all-electric camshaft" type, arranged for automatic acceleration, and embodying the following essential features:—(a) A camshaft rotated by a small motor under the control of relays and of the master controller, the camshaft carrying a number of cams which open and close the contactors in definite sequence; (b) two line breakers to break the main circuit, and (c) the usual electrically-operated auxiliary gear, comprising reverser, etc. The use of cams gives a mechanical control of the sequence of contactor operation and obviates the necessity for fitting electric interlocks which, with solenoid operation, are numerous and deal with appreciable currents in highly inductive circuits. The adoption of an electrically driven camshaft has eliminated a serious source of trouble in regard to both maintenance cost and reliability. None of the contactors break current, except the two which have to deal with the comparatively small current during transition from series to parallel. These contactors are fitted with blow-outs. The reduction in the number of current-breaking contactors



Typical Double Track Structure

makes the whole equipment compact and is another factor in reducing maintenance.

The camshaft provides six notches in series, five notches in parallel and one field tap notch, and is arranged in two groups, both groups being driven by a single camshaft motor. The camshaft groups, consist of a number of steel cams which are mounted on a mica-insulated steel shaft. The cams are set at different angles, and each one in its turn closes a contactor. These contactors regulate the amount of starting resistance in the main circuit and also determine the grouping of the main motors. The progression of the camshaft is entirely mechanical so that no electrical interlocking is required to prevent the contactors closing in the wrong order; the progression is definitely determined and there is no possibility whatever of incorrect operation.

#### Interlocks

The only two electrical interlocks on the equipment are an interlock on the reversers, which prevents the line breakers closing unless the reversers are in the correct position as determined by the master controller, and an interlock on the line breakers, so arranged that the camshaft cannot begin to rotate in a forward direction until

the line breakers have closed, or backwards until the line breakers have opened. By reason of this latter interlock the main circuit is always made and broken on the line breakers alone, and the resistance contactors on the camshaft require neither blow-outs nor arc shields. Both line breakers and circuit breakers are of the "English Electric" standard types and are fitted with a metallic shield blow-out. A feature of the control system is that the control circuits are protected entirely by the main control fuse and separate fuses on each circuit are dispensed with. This has the important advantage of reducing the number of delays that otherwise occur from no other cause than blown fuses. The general construction of the equipment throughout is of the mica and metal principle.

#### High-tension Chamber

The whole of the control gear is housed in a special high-tension chamber in each motor coach. This high-tension chamber is divided into three compartments; the main compartment contains the camshaft groups, reverser, motor cut-out switch, circuit breaker, line breakers and motor generator set. The greater part of one side is taken up by the second compartment which contains the main accelerating resistances and the starting and permanent resistances for the motor generator set and exhaustor motor. This compartment is separated from the main compartment by means of a panel which is bolted in place. The third compartment contains the pantograph isolating links, main isolating switch, auxiliary circuit breakers for the motor generator set and exhaust motor, reverse current relay, L. T. contactor, etc. This latter compartment is fitted with a door interlocked with the main isolating switch, as is also the door of the main compartment. The main isolating switch has three positions, a closed position, an open position and an earth position. The closed position is the normal running position. In the open position the high-tension current is cut off from the power circuits and everything in the main chamber is isolated from the high-tension with the exception of the motor terminals of the motor generator set. In this position the main door is unlocked and it is possible to enter the high-tension chamber. Control current being available, the controls may be tried and their operation examined. In the third position of the main isolating switch, the pantographs and the whole of the equipment becomes dead, the door leading to the auxiliary high-tension compartment is unlocked and the whole of the apparatus open to inspection.

In order to prevent a dead short circuit on the line, the pantograph operating mechanism is interlocked with the main isolating switch, so that this switch cannot be placed in the earth position until both pantographs are lowered.

#### Pantographs

There are two pantographs fitted to each coach, vacuum operated and controlled by an electro-vacuum valve. It is thus possible for the driver to lower all the pantographs simultaneously from his driving cab. Each pantograph further has a hand-operated cock on the vacuum supply, so that it is possible to use either one or other or both pantographs on any one motor coach. The pantographs, which are shown in one of the illustrations, are fitted with ball bearings throughout. These ball bearings, together with a special cam which regulates the leverage of the springs, ensure that there is an extremely small variation of pressure over the whole working range.

#### Motor Generator Set

The motor generator set, which is also illustrated, consists of a 1,500-volt compound wound motor driving a 5.7

kw. 120-volt compound-wound generator. In normal operation the generator in the leading train unit supplies the current for operating the whole of the controls of the train, and the lighting and ventilating circuits of the leading unit, the generators in the other units supplying the lighting and ventilating circuits of their respective units only. The overload capacity of each motor generator set is sufficient to allow one set to supply the current for two train units in case of an emergency. Two low-tension bus lines are fitted, and are so arranged that it is impossible to couple two motor generator sets in parallel, but at the same time allowing for the circuits on any unit being supplied from the motor generator set in an adjacent unit merely by throwing over a switch.

#### Braking

The vacuum brakes, which work on the single train pipe system, have been supplied by the Consolidated Brake and Engineering Company, Limited. A special electro-vacuum valve is fitted to cut the exhaustor off from the train pipe when the brakes are being applied, thus ensuring an even application of the brakes throughout the



Car-Floor-Level Platforms on Curve at a Station on Great Indian Peninsula's Bombay Suburban Lines

length of the train. The exhaustor is of the Reavell rotary type, driven by 1,500-volt series wound motor. Normally the exhaustor runs continuously at half speed, but on the driver's brake being placed in the release position, the motor is speeded up to full speed, so that the normal vacuum of 20 in. can be restored throughout the train in ten seconds.

#### Asbestos Flooring and Panels

The extensive employment of asbestos products provides significant commentary on their growing recognition in present day practice. On the Indian railways questions of comfort and cleanliness are of necessity emphasized by climatic extremes. The adoption of asbestos, as manufactured by Bell's United Asbestos Company, Limited, in the construction of no fewer than 77 vehicles is a measure particularly adapted to the requirements of natural conditions. Apart from its heat insulating qualities, asbestos flooring very considerably minimizes risk of fire. In conjunction with steel framing and asbestos panelling, "Decolite" flooring is stated to render rolling stock virtually fireproof, while a non-slipping surface and resilient tread are added advantages gained by its use in corridor coaches. For the intermediate lining of the walls and roofs "Salamander," flexible air-cell millboard is supplied. It is specially treated to resist the moisture of the Indian monsoon.



# Eliminating Written Train Orders

*Successful methods of directing train movements by signal indication explained in papers presented at signal convention*

**A**S stated in the report of the convention of the Signal section of the American Railway Association in Chicago, March 12 and 13, published in the *Railway Age* for March 21, the second day of the convention was devoted to the presentation of 18 papers on the operation of trains by signal indication, eliminating written train orders. Several of these papers were published last week and others giving results of successful operation for periods of years are given in abstract below.

Among the papers to which reference was omitted in last week's issue was one by S. N. Wight, engineer of

the General Railway Signal Company, entitled, "Signaling at the Age of Maturity." In this paper Mr. Wight emphasized the fact that while signals provide adequate protection they are capable of rendering additional service. He mentioned that the next step in their utilization is to arrange for the signals to direct train movements so as to insure superiority and the desired sequence. In the development of his paper he presented a series of diagrams explaining the plan for the accomplishment of this purpose by the direction of trains by signal indication without the use of written train orders.

## Train Operation by Signal Indication on the Erie\*

By M. A. Baird

Signal Engineer, Erie, New York

The Erie was one of the first roads to make use of a signal, on double track for movements with the current of traffic, that could be used in place of the written train order. In 1909 in connection with the proposed automatic signaling of a double track division 139.7 miles in length, with 16 eastbound and 15 westbound 85-car passing sidings, it was thought that a considerable saving could be effected and the operation facilitated by the use of a signal which would direct trains to: (1) Stop and hold main track; (2) Take siding, or (3) Proceed on main track regardless of following superior trains.

The automatic signals were to be of the one-arm, three-position, upper quadrant type and the signal devised to fill the needs above mentioned was a one-arm, three-position, upper quadrant type, located on the mast with, and 12 ft. below the automatic signal. This new signal was termed "telephone train order signal" and was located generally at the entrance end of passing sidings although it can be used quite advantageously at other locations. It is controlled by a polarized line circuit from the nearest day and night telegraph office, and the train dispatcher directs the operation by instructions to the office controlling the signal. The circuit arrangement is such that the telephone train order signal (lower arm) requires the automatic signal (upper arm) to display its most restrictive indication whenever the train order signal is at either the 45-deg. or stop position. This arrangement, of course, provides a distant indication approaching each train order signal.

The rules governing the movement of trains by signal indications given by the telephone train order signals are:

- (a) Arm horizontal—Red light at night.  
Indication: Stop on main track and consult dispatcher on telephone.
- (b) Arm inclined 45 deg. above horizontal—Yellow light at night.  
Indication: Take siding and consult dispatcher on telephone when clear of main track. Passenger trains will report before pulling into siding.
- (c) 1. Arm inclined 90 deg. above horizontal—Green light at night.

Indication: Proceed regardless of following superior trains until otherwise directed by dispatcher.

2. Trains are forbidden to accept this indication if there is any known cause that will prevent them from making their usual running time. In such an event, they will consult immediately with the dispatcher by telephone. When a train accepts the "proceed" indication and for any cause is unable to make its usual running time, it must protect itself against following preferred trains according to Rule 99, Operating Department.
- (d) 1. It is forbidden to use a crossover at any point where a telephone train order signal is located without permission from the dispatcher.
2. When trains approach interlocking points with insufficient time to clear the schedule of a superior train at next passing point, the whistle must be sounded for a siding and if "proceed" signals are displayed, trains will proceed in accordance with paragraph "c."

The use of the above described signal eliminated the necessity for the use of the following train order forms: Form B—Directing a train to pass or run ahead of another train; Form D-E—Time orders; Form G—Extra trains; Form J—Holding order. The new system proved conclusively that it did facilitate the handling of trains over the division and in consequence thereof effected a saving.

During the next seven years the Erie installed 1,367 track miles of automatic block signals and the telephone train order signal was used wherever possible.

### Train Orders Eliminated in Dense Traffic Zone

In the Erie's densest commuter traffic zone there are four tracks, one part of which (Jersey City to Croxton, 2.2 road miles, 8.8 track miles) is equipped with automatic block signals for normal direction and reverse traffic operation on all four tracks. Traffic locking between towers at each end of this two-mile section is used in controlling the direction of traffic. Normally two tracks are operated eastward and two westward. During the morning rush period three tracks are operated eastward and during the evening rush period three tracks are operated westward with the fourth track also used westward for a few trains. Trains are scheduled to operate over a certain track, although in emergency, trains may

\*See *Railway Age* for July 5, 1918, page 5. See *Railway Signal Engineer*, July, 1918, page 205.

be routed over any track and are governed by signal indications only.

These four tracks serve two tracks from Croxton to *HX* bridge, a distance of three miles. The two tracks connect to four tracks again at *HX* bridge and were formerly signaled for traffic in one direction only. This resulted in delays to six eastbound and five westbound trains daily during the rush hours. In order to eliminate this delay, special orders were used, and a trainmaster and an assistant chief dispatcher were placed at each end of this three-mile section of double track for three hours daily in order to handle properly the operation of these eleven trains against the current of traffic.

Both tracks were then signaled for traffic in either direction with traffic locking between towers at each end

of the three-mile section. This arrangement eliminated the delays and the necessity for orders, released the two men, and allowed a much better spacing of trains. For example, from 8:03 a.m. to 8:23 a.m. there are 11 eastbound trains over this piece of track. Six of these are now moved on one track and five on the other track by signal indications only. A similar condition prevails westbound during the evening rush period, 11 trains being handled in 26 min., six of which are now routed on one track and 5 on the other track, allowing a 3 min. spacing between trains. On three sections of single track, equipped with automatic signals, with traffic locking between towers located at each end, trains are governed entirely by signal indications. These three sections are 9.2 miles, 5 miles and 3.4 miles in length.

## Excellent Results for 35 Years on Burlington

By J. B. Latimer

Signal Engineer, Chicago, Burlington & Quincy, Chicago

In 1888 the first 19 miles of the main line of the Chicago, Burlington & Quincy westward from Chicago consisted of four main tracks, from Canal street, Chicago, to the station at Hawthorne, a distance of approximately 5.5 miles, and three tracks from Hawthorne to Downer's Grove, 14 miles further. From Downer's Grove to West Burlington, Ia., 190 miles, the line was double track.

In that year, we installed two electro-pneumatic interlocking plants in the Chicago yard, one at Western avenue and one at California avenue. The four track line had two tracks assigned to passenger and two to freight service. Mechanical interlocking plants were in service at Throop street and Wood street, east of Western avenue and at Hawthorne, west of California avenue. This made five interlocking plants in a distance of less than five miles and it was decided to use them as block stations and operate trains by block signals in this territory. As it was all in Chicago yard limits, no orders were issued and trains were moved by signal indication only. Moving trains by signals soon demonstrated its advantages to our operating officers and in 1889 it was decided to extend the system to Aurora, 37 miles west of Chicago and 16 miles west of Downer's Grove.

Regular stations were used for block stations, where practicable, but several special block cabins were built. There were seven blocks on the three track line between Hawthorne and Downer's Grove, averaging 1.75 miles long, and eight blocks on the double track between Downer's Grove and Aurora, averaging two miles long. These block signals remained in service until replaced by automatics in 1914, thus giving 25 years of satisfactory service.

The signals were wooden semaphores, made in our own shops. The mast was hollow and the lamp was drawn up inside on an endless chain. These signals were two-arm, lower quadrant, 60-degree semaphores, the upper blade being red with a square end and a white stripe and the lower one green with fish-tailed end and a white stripe. The aspects and indications were as follows:

Both blades horizontal—Stop.  
Red blade inclined downward, green blade horizontal—Proceed with caution, expecting to find block occupied.  
Both blades inclined downward—Proceed.

In other words, the second aspect was used instead of a caution card, rather than as a distant signal indication for the next block signal, no distant block signals being used.

On the three track line these signals were displayed from bracket masts set on the outside of the track. In

this way the middle track was signaled for movements in both directions, while the north and south tracks were signaled for westward and eastward movements respectively only. By time-table rule the middle track was used regularly as an eastward track for certain hours of the day and as a westward track during the other hours.

On the double track the signals were on straight masts and governed westward movements on the north track and eastward movements on the south track. The practice established earlier in the Chicago yard district of moving trains by signal indication only was followed and no running orders were given.

### Method of Three-Track Operation

by Signal Indication

The preponderance of our business is towards Chicago in the morning and away from it in the evening. The use of the middle track was arranged accordingly, but it was not long before the dispatchers found that once in a while, on account of a delayed train, it was convenient to use the middle track in the direction opposite to that given at the time by the time-table. Being familiar with single track operation, they issued orders for such movements just as they would for single track. It was from this beginning that the general practice of running against the current on double track finally developed.

Running without orders between Chicago and Aurora proved so satisfactory that in the winter of 1894-5 it was extended to cover the double track as far as Burlington, Ia. Wherever double track was extended, the practice went with it and we are now operating all of our double track, 1,064 miles, in this way. We do not absolutely give up the use of telegraph or telephone orders, as the orders eliminated are the running orders; orders for other purposes are still issued. In discussing the matter with many of the dispatchers who remember the old days, the consensus of opinion is that the use of signals in place of orders has reduced the number of orders at least 60 per cent and has allowed the closing of many offices which otherwise it would have been necessary to maintain. The practice commenced with a manual block system, but where automatic signals have been installed, the practice has not been changed.

### Running Without Written Orders on Single Track

In 1907 we decided to install the lock and block system on 1,300 miles of our more important single track lines.



The General Railway Signal Company's machines were used to operate our regular train order signals. Of this single track 55 miles consisted of stretches connecting the ends of double track, on which sections track circuits were installed and electric locks placed on the outgoing switches of sidings in addition to the lock and block. The arrangement was A.P.B. (absolute permissive block), in that it allowed following movements after a reasonable interval, but was absolute for opposing movements. The electric switch locks were controlled by the block operators and also automatically by opposing movements. On this 55 miles we operated without running orders. Four stretches were so equipped, the longest of which was 24 miles between Red Oak, Ia., and Balfour. There are six intermediate stations between Red Oak and Balfour and on this stretch we continued to give meet orders, but running orders were dispensed with. On the other stretches there were no intermediate stations and consequently no meet orders or running orders were required. Some of these original installations have been taken out on account of double tracking, or replaced with automatic block signals and a few additional installations have been made. At the present time we are operating 8 separate sections totaling 34 miles this way.

#### Operation of Trains Against Traffic on Double Track

The practice of operating trains against the normal current of traffic was started by some busy dispatcher deciding that he would take a chance and use the middle track between Downer's Grove and Chicago as a single track. After which he, or some other dispatcher, said to himself: "We are using this middle track as a single track but here it is 8 a.m. and the time-table says it is an eastbound track now, at 1 p.m. it will become a westbound track, yet I just sent a westbound train out on it. Now, if I can do that and keep trains moving, why cannot I do the same thing on the double track, where the tracks are east or westbound all the time. Here is a dead freight train that has been waiting at Bristol for two hours to get out between stock extras. I will cross the dead freight train over and let it come in on the north track." And so he did and it has been done ever since.

We issue orders for such moves and for many years there were no signals governing them; although in 1916 we equipped that part of the main line from Aurora to Wataga, 119 miles, with reverse current automatic signals. The third track had been extended from Downer's Grove to Aurora and from Wataga to Galesburg so that we have either three tracks or double track signaled for both directions all the way from Chicago to Galesburg, 163 miles, the first freight engine division west from Chicago. Data on traffic handled show that we are bringing in as many cars on this three and two track line as most of our neighbors do with four or more tracks and our overtime for freight crews is reduced to a minimum.

After the dispatchers had developed this practice for themselves the management took it up and some special rules were promulgated for it, the principal one of which required a train running against the current to get a standard clearance card at each block station it passed; but as automatic block replaced the manual, it was found impossible to do this and the practice has been abandoned as unnecessary even in manual block territory.

We are still making reverse current movements by order on the double track between Aurora and Wataga even with the signals, but the matter is now before our train rules committee and I think this practice will likely be changed in the near future. The signaling is A.P.B., resulting in the equivalent of two single track lines side by side. On the middle track between Hawthorne and Aurora the signaling is not A.P.B., but an item on our 1925 budget for changing it is approved and when this is done, we will discontinue issuing running orders there.

At practically every second station between Aurora and Galesburg, which spaces them about ten miles apart, we have a standard lap siding arrangement with the two main line cross-overs, one facing and one trailing point, handled by an interlocking plant and the reverse current movements and returns are made through these without stopping a train. Form "19" orders are used exclusively.

The whole question is one of getting the most use out of existing facilities. Why delay freight trains and pay overtime with a perfectly good track costing thousands of dollars a mile standing idle for hours?

## Train Operation by Signal Indications—Especially by Cab Signals

By A. H. Rudd

Chief Signal Engineer, Pennsylvania Railroad, Philadelphia, Pa.

In my paper on the results of the test installation of train control on the Sunbury and Williamsport divisions of the Pennsylvania Railroad, presented at the Stated Meeting of the Signal section, September, 1924, I said, in part, as follows:

"The wayside signals are two-position position-light and indicate *Stop* or *Go*. A combination of the cab and wayside signals gives us, therefore, *Authorized*, *Restricted*, *Slow* and *Stop*.

"The cab signals give good service and are as reliable as the wayside signals and it is my personal opinion that, if any additional safeguards are required or justified, in order to handle our traffic safely, expeditiously and economically, as required by law and desired by every one, the addition of these cab signals will, with the type and character of men who run our trains, provide as much protection as the complicated apparatus required for any system of train control and more protection than the straight stop with the permissive feature, excepting in the case of a train with an engineman sud-

denly gone crazy and the fireman not knowing it, and in the case of either control or stop, an engineman and fireman both absolutely incapacitated, a contingency less likely to occur than a failure of the apparatus to apply the brakes.

"If the analysis of Committee X, in the September, 1924, Advance Notice of the Signal Section, is correct, such a signal superimposed upon existing automatic systems, until such time as all locomotives are equipped with it, will for all practical purposes provide as much protection as the train control, thereby eliminating the installation and maintenance of a lot of complicated apparatus and while giving continuous and reliable information of conditions ahead instead of at certain fixed points, allow the engineman (and in case of his disability, the fireman), to control his train properly, as far as the braking apparatus will let him do so without interference and as he properly should do.

"On our lines automobiles are a greater menace than trains ahead. To make the pathway safe no new grade

crossings should be permitted, some should be abolished each year, and a far greater number should be protected. The money otherwise available should be used:

- (1) To install manual block, where passenger trains run.
- (2) To modernize present automatic signals to the highest efficiency.
- (3) To extend automatic block systems with the necessary interlockings, using signals without moving parts spaced for future installation of continuously controlled cab signals and for trains running with closed throttle at maximum authorized speed, preferably controlled by alternating current track circuits to reduce foreign current interference to a minimum, and including in the installation flashing lights or wig-wags indicating the approach of trains at all important grade crossings where the nature of traffic, sidings, etc., will not make their indications misleading.
- (4) To superimpose cab signals on or substitute them for the automatic signals, meanwhile developing train control along lines of simplicity.
- (5) Finally, when the principal causes of fatalities and injuries have been eliminated and for this reason the percentage of casualties due to collisions on main tracks preventable by train control has increased and progressed out of the miscellaneous class of train accidents, to install the then fully developed, adequate and efficient train control."

This is the program we are following as closely as we are permitted to do so.

We are continuing the development of the three-speed continuous train control on the Lewistown branch, and we are proceeding with the installation of an automatic block system on the Baltimore-Harrisburg line, 'using signals without moving parts spaced for future installation of continuously controlled cab signals and for trains running with closed throttle at maximum authorized speed controlled by alternating current track circuits to reduce foreign current interference to a minimum, and including in the installation flashing lights indicating the approach of trains at many grade crossings. On this we are superimposing cab signals giving three indications and arranging for a straight stop with forestalling feature on the locomotive, the latter in accordance with the requirements of the Interstate Commerce Commission revised in July, 1924.

The cab signal will be the same as that in use on the Lewistown branch, and will operate so as to show "A"—Authorized—when train is running in a clear block under clear signals; forestalling being required to avoid brake application on each change to a less favorable indication, so that, if one train is following another, and the engineman does not forestall, a stop will result: (1) when it passes an approach signal back of the leading train, having had an *A* cab indication before reaching the signal: (2) when it passes a stop signal and enters the block occupied by the leading train, having had an *R* cab signal before reaching the stop signal. In case of No. 1, if the leading train clears the block ahead before the following train reaches the signal protecting that block, that signal will, of course, change to an approach signal and the cab signal on the following train will at once change from *R* to *A*, and, when passing the signal, back to *R*. In case No. 2, as soon as the leading train clears the block occupied by both trains, the cab signal on the following train will change from *S* to *R* and, on passing the signal ahead indicating stop, back to *S*. Should a rail ahead of a train be broken, or a switch open, or the track short-circuited in any way, the cab signal would immediately change to *S*, and a stop result unless the engineman is very alert.

#### Records of Performance

An analysis of cab signal performance, separated from train control performance, on the Lewistown branch, during the 18 months from July 11, 1923, when the apparatus was placed in service, to January 10, 1925,

inclusive, 5,337 trips, shows approximately 384 irregularities. That is one for every 14 trips, one in every 700 miles, one in every 840 sections. For the first nine months, there were 233, and the second nine months 151, showing that we have progressively developed and improved the apparatus and eliminated failures.

Of these failures, the roadside apparatus was responsible in the first nine months for 125 and in the second nine months for 72, a total of 197; the engine equipment in the first period for 108, and in the second period for 79, a total of 187.

The cab signal in service on the Lewistown branch will regularly change momentarily when passing over the insulated joints between adjacent track circuits, the duration of this "flip" depending on the speed of the train, but, in any case, it is not of sufficient duration to be interpreted as a change in indication. It is thereby self checking. Only when it continues after the joints have been passed would it be observed by the engineman as a change in indication. This change is most noticeable on single track lines where direction must be established by the moving train as it shunts the successive track circuits. This function is the result of one of the engine pick-up coils being over one track circuit and the other over another. The rear or loop coils receive no energy, due to the relay ahead, which controls the loop circuit in the rear, being shunted by the front wheels of the engine.

The smaller number of failures during the last half of the 18-months period is explained by the fact that the "bugs" always present in a new development are gradually being eliminated. Improved methods of engine wiring and better grade of wire, as well as a better knowledge of what must be most closely watched in maintenance, are items explaining this reduction. Improvements in the headlight generator, which are expected to result in a more uniform voltage, should still further reduce this trouble. Broken filaments or other defects in amplifier tubes and ballast lamps are inevitable but regular tests and improved knowledge of what service to expect will keep this trouble at a minimum.

The trouble due to the dispatchers' selective system was at first almost a regular daily occurrence, but is now rare. The establishment of an "answer back" is the main improvement, to which the practical elimination of this trouble may be credited. As this apparatus is an experiment that does not directly involve the cab signal or train control development, the onus of these troubles should not be charged to cab signals.

We must realize that the cab signal has actually been in service only a little over 18 months, and that automatic signals have been in a state of development for over 50 years. In view of the development of the cab signal in these 18 months, we are fully justified in stating that it is apparently as reliable as the wayside signal and gives promise of becoming more so.

#### Advantages of Cab Signals

As we all know, the wayside signal gives information at fixed points. We all realize the advantage of giving an indication which will immediately change when necessity requires at any point between fixed signals. The cab signal supplies this desirable feature. Its greatest advantage, however, from a safety standpoint, is its visibility, and its checking of the indication of the fixed signal.

Many of the fixed signal units now display four aspects and, by combination of two units, additional ones are provided. The cab signal as at present developed gives only three. It may be substituted for the ordinary three-position signal indicating, *Stop-and-Proceed*, *Proceed*,



and *Approach Next Signal Prepared to Stop*, but is incapable of displaying the aspects considered necessary on many of the railroads at interlockings, and it cannot be used as an adequate substitute for the method of signaling which gives definite information of the condition of three blocks ahead, or to indicate *Approach Next Signal at Restricted Speed*, an aspect frequently displayed approaching an interlocking with long crossovers; consequently, in the present state of development, a less favorable indication must be used on the cab signal at such points; but where an automatic stop is used, with the forestalling feature in the hands of an expert and alert engineman, it need not be anticipated that train operation will be greatly retarded.

An analysis of the fatalities preventable by train control, on the Pennsylvania Railroad at least, shows practically all of the few we have had resulted from collisions at slow speed which train control theoretically might have but, as a matter of fact, would not have prevented; or through enginemen missing entirely or unintentionally overlooking the signal, which the cab signal would have checked in a great majority of cases. Our accident at Manhattan transfer would not have been prevented by cab signal or train control.

The cab signaling we use has the same basic principles as the roadside signaling—that is, closed continuous cir-

cuit and the light signals without movable parts; and this is one of the reasons why the design can be considered as safe as that of the roadside signal, although, in its present development, it is more liable to so-called safe failures, it being subject to practically all the failures incident to the wayside signals in addition to those caused by defective apparatus on the engine.

It must also be realized that, conservatively estimated, 75 per cent and possibly over 90 per cent of these reported failures consist solely of flips of a few seconds duration, somewhat similar to the flipping of fixed signals, and which would not have been noticed if it had not been for the fact that in many cases they resulted in a brake application with the continuous train control. It should also be remembered that these signals have been much more closely watched than fixed signals would have been, as several observers have been assigned constantly for this duty. The cab signal is always in view of the engineman. The fixed signal may engage in calisthenics unnoticed, due to the absence of observers at the time of the performance, whereas, if a cab signal "pumps" it will surely be observed. The cab signal may be substituted for those signals whose aspects it is capable of duplicating, as for instance, the three-position automatic signals; but it cannot take the place of signals giving additional indications.

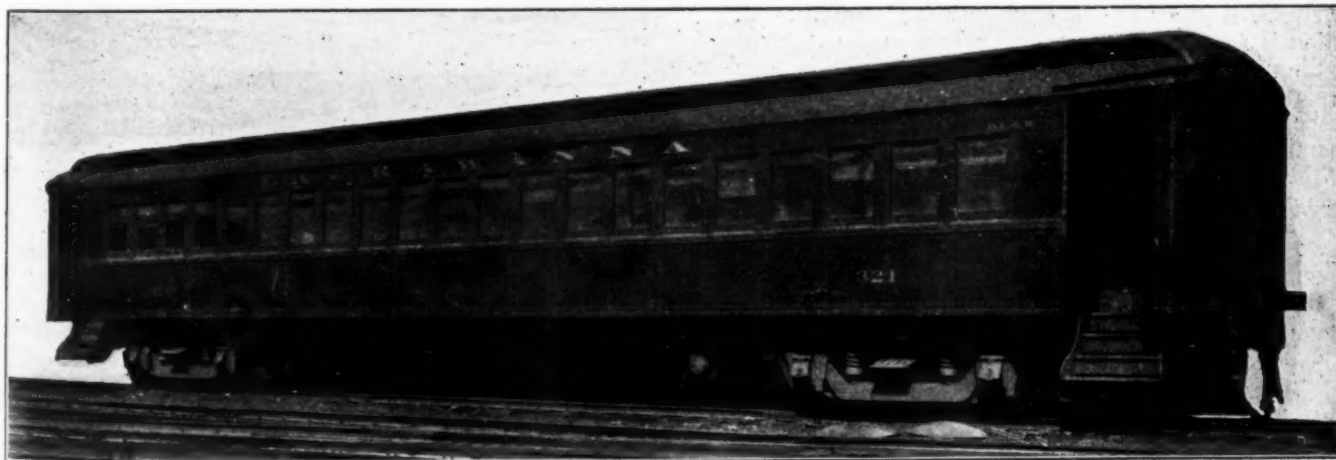
## Suburban Cars for the D. L. & W.

*New equipment designed with view to possible use in multiple-unit service*

THE Delaware, Lackawanna & Western has recently placed 50 new steel suburban coaches and 10 suburban combination passenger and baggage cars in service between Hoboken and outlying points in the New Jersey suburban district. The 50 coaches were

may be easily transferred to and arranged for operation in multiple unit service should the Lackawanna, at some future date, decide to electrify its suburban territory.

The cars are of steel construction throughout with steel interior finish. The underframe and superstructure



Delaware, Lackawanna & Western Suburban Passenger Coach

built by the Pullman Car & Manufacturing Corporation and the 10 combination cars were built by the Bethlehem Shipbuilding Corporation, Ltd.

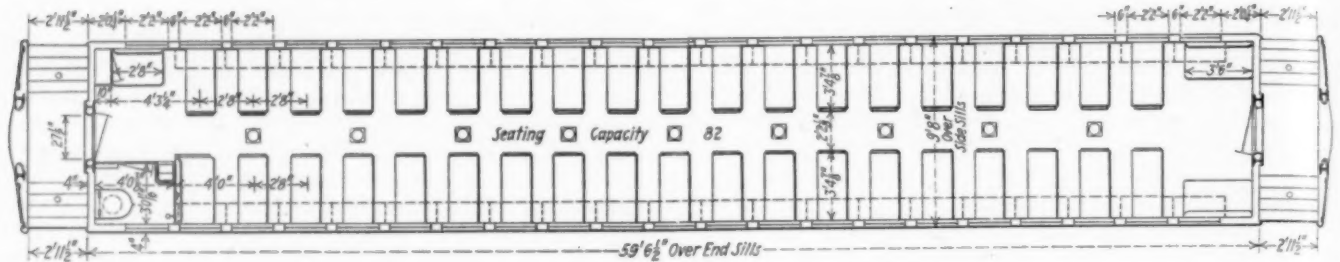
This equipment, in general design, follows closely the more recent steel suburban cars now in service. However, several important detail changes have been made in the design of the body and underframe so that the cars

details have been so designed as to provide the maximum possible strength consistent with weight limitations. The center sills are of the box girder type consisting of two 10-in., 23.6-lb. ship channels with 5/16-in. top and bottom cover plates. They extend in one length between the buffer end sills. In addition to the buffing shocks, the underframe is designed to carry the weight of any electrical

apparatus which may later be suspended beneath the car. The body bolsters are built up of pressed steel shapes and plates and extend from side sill to side sill.

The flooring consists of an under flooring of steel plate supported on the underframe, over which is placed one

toilet fixture are provided with 25-watt type "C" lamps. The generating equipment consists of a Gould ball-bearing, 30/40 volt generator with body suspension, generator regulator and lamp regulator. A two-compartment switch and regulator panel locker is provided having



Floor Plan and Seating Arrangement of the Coach

course of  $\frac{3}{4}$ -in. 3-ply Salamander insulation. There is an air space between this insulation and the No. 24 gage galvanized steel Chanarch flooring which has  $\frac{5}{8}$ -in. depressions. This flooring is secured to the floor supports in such a manner as to carry the load independent of the lower or deadening floor. Over the Chanarch is laid a  $\frac{1}{2}$ -in. layer of Flexolith composition flooring. Around the sides and ends of the car the composition flooring is laid with a cove of about one inch to prevent water getting in behind the interior finish when the floor is washed. Vestibule end windows with steel sashes are provided. The vestibule space and window location are designed for the possible future installation of a motor-man's electric controller, brake valve, gages, etc.

As previously described, the car body is of steel construction with steel interior finish. Inside of the side, end and roof sheets is placed a layer of  $\frac{1}{4}$ -in. Salamander hair felt insulation. Back of the inside finish, below the window stools, one course of  $\frac{1}{2}$ -in. Salamander is applied. This insulation is covered with cloth on each side and stitched. Insulation is used between the backs of all interior finish sheets and the faces of the framing members in order to break direct metallic connection through the side walls of the cars. The headlining is Agasote,  $\frac{3}{16}$ -in. and  $\frac{1}{4}$ -in. thick in the lower and upper decks, respectively. All joints are covered with steel battens. Ventilation is provided by swinging sashes in the upper deck.

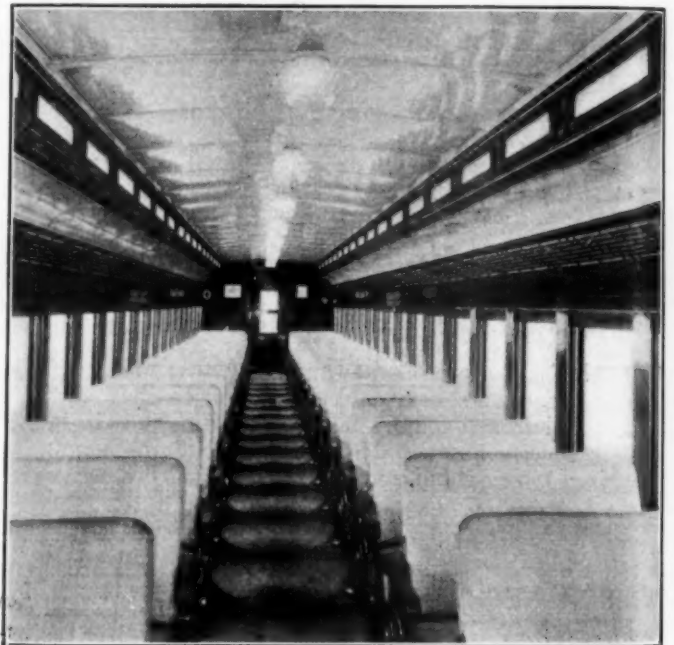
Single window frames of welded steel, 21 in number, are riveted to each side of the car body. Single wood sashes of  $\frac{7}{8}$ -in. Mexican mahogany are fitted in such a manner as to provide unobstructed vision when raised. O. M. Edwards window fixtures are used. The window sills are also of Mexican mahogany.

#### Lighting Facilities Well Arranged

The interior lighting is provided by nine center fixtures fitted with Corona bowl and 50-watt type "C" lamps. Four flush platform fixtures, one over each step, and one

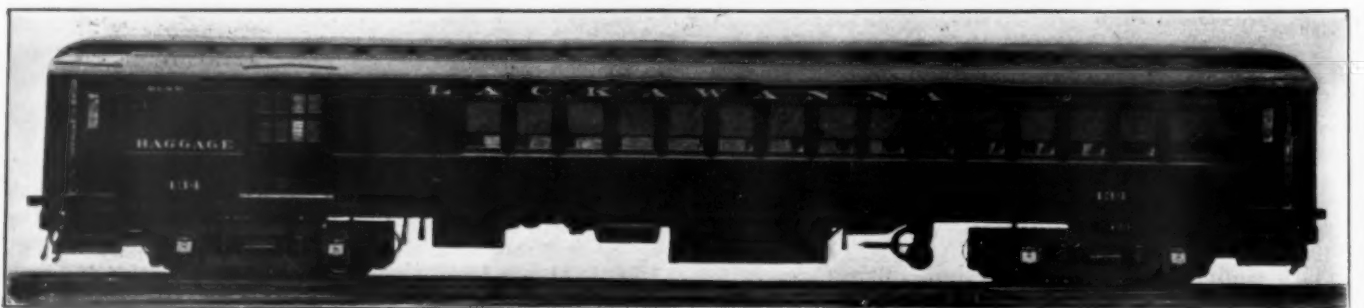
automatic door-controlled panel lights. The storage battery equipment consists of 16-cells of lead plate battery having a capacity of 200 ampere-hours. This is housed in a steel battery box.

The latest type of Gold vapor heating system is used



The Coaches Have Seating Accommodations for 82 Passengers—Continuous Parcel Racks Are Provided

in the cars, designed to maintain a comfortable interior temperature. The heating equipment is installed in such a manner that it can be removed at any time without marring the interior and replaced by electric heaters.



The Combination Cars Have a Seating Capacity of 58 Persons



The seats are of the Walkover type, manufactured by Hale & Kilburn, with twill rattan fabric cushions and backs and Mexican mahogany arm rests.

The cars are equipped with the Westinghouse UC air brake equipment arranged for clasp brakes and slack adjuster, to provide a braking power of 90 per cent of the light car weight with a brake cylinder pressure of 60 lb. All brake rigging is designed with ample strength for 105-lb. cylinder pressure.

Four-wheel trucks are used, with the Commonwealth Steel Company's one-piece truck frames, cast steel truck bolsters, 5-in. by 9-in. journals and 36-in. rolled steel wheels.

The light weight of these cars is approximately 106,000 lb. With a seating capacity of 82 persons, the weight per seated passenger is slightly less than 1,300 lb.



End View of the Car Showing the Box Type Vestibule with End Windows

The length of the cars over buffers is 70 ft. 6 in. and the height from the rail to the top of the roof at the center is 13 ft. This height is somewhat less than existing equipment and the roof structure is designed for the future application of a pantagraph and headlights.

The 10 combination passenger and baggage cars previously mentioned are of substantially the same design and equipment, having a baggage compartment with an inside length of 17 ft. 3 in. and a seating capacity of 58 persons in the passenger compartment. The combination cars have a total light weight of 106,700 lb. and the total weight of the two trucks complete is 32,200 lb.

THE PURCHASING AGENTS' ASSOCIATION OF CHICAGO, composed of purchasing agents of industries located in Chicago, has opened an office at 14 E. Jackson street, Chicago, through which it will supply information to its members.

## The Railway Mail Service\*

By Edwin McGrath

Superintendent of Railway Mail Service, Eighth Division.

TRANSPORTATION of mail has naturally improved in method and device along with other classes of transportation. I believe the first record of railway mail carried dates from 1830 when it was commenced on part of what is now the Baltimore & Ohio system between New York and Washington. Prior to the inauguration of parcel post service, the carriage of mail was comparatively simple except perhaps on some of the main line trains. The mail was carried in pouches and sacks and was not so great in volume that it could not be easily handled in the available space provided for baggage and express. Subsequent to the inauguration of the parcel post the mails grew burdensome even on the small lines. It is a question in my mind if the parcel post system as organized is just what it should be, but it must be administered under the laws provided by Congress. Railway mail service has grown from a few hundred miles in 1830 to 240,000 miles. This is not a small business to the railroads although it may not appear so large when distributed among the different roads. It might not be amiss to say that last year we paid to the railroads \$100,000,000 for the transportation of U. S. mail. We now have some 5,000 mail cars, 3,000 of which are steel, and in a year handle some 17 billion pieces of mail.

It is the duty of the railroads to load mail into storage cars and to take the mail therefrom. In the case of railway mail postal cars the clerks load and unload the mail. The department is not as strict in regard to connections as it was when the mails were smaller. It does not expect connections to be made if at all impracticable and if it is likely to cause material delay to a train. While the department will not insist on connections it does insist that connections be not missed without authority from the department, which authority is generally granted when justified.

Many improvements have been made by the railroad companies in postal cars in recent years, which have added to the comfort and efficiency of the mail clerks; and perhaps the greatest of all improvements was the steel postal car. Since their inauguration the death rate among the postal mail clerks has decreased materially. A few years ago it was not unusual to lose as high as 20 men in a year and I believe it went as high as 32 once, while last year we lost but 2 men.

Compensation for handling mail for the last four years has been in the hands of the Interstate Commerce Commission. They fix the rates, while the postage rates are fixed by Congress. Possibly the greatest burden to us and the greatest source of dissatisfaction to the railroads and express companies was the increasing of the size of packages to be handled. If we hold that the primary purpose of the postal department is to handle written and printed matter in small packages, we must view with alarm the increasing burden in the way of parcel post of all sizes and descriptions. The I. C. C. has the authority to fix the express rates as well as the parcel post rates and it may be that some day it will realize that it costs the government just as much to handle this class of mail as it does the railroad or express company; and they may adjust the rates so that we will be relieved of some of the burden and part of the business will go back to the express and railroad companies which have better facilities for handling it.

\*An abstract of an address before the Pacific Railway Club, San Francisco, Cal.

# Report of Director General of Railroads

Final report on adjustment with carriers gives details of settlements

A DETAILED explanation of the methods used in the adjustment of accounts between the railroads and the Railroad Administration for the period of federal control, with numerous exhibits, including figures showing the claims of each company, is included in the report of the director general of railroads to the President, a summary of which was published in the *Railway Age* of January 24, page 267. The report itself, which is final as to adjustment of the claims of carriers whose property was taken over and actually operated by the government, was transmitted by the President to Congress and was not made public in detail until it had been printed by order of the House. With the various exhibits it gives much information not heretofore published regarding the settlements made.

A summary of the estimated cost to the Railroad Administration of federal control, not including the cost of the six-months guaranty for the period following federal control, is given in the report as follows:

## STATEMENT OF ESTIMATED COST TO DECEMBER 31, 1924, TO THE UNITED STATES RAILROAD ADMINISTRATION OF FEDERAL CONTROL OF TRANSPORTATION SYSTEMS

Excess of rental paid to carriers by United States Railroad Administration over income from operations of transportation systems	\$810,541,286.22
Expenditures on inland waterways including loss from operations. New York Canal, New Jersey Canal, Mississippi-Warrior waterways	18,303,093.08
Deficit from operations of American Railway Express Co. absorbed by United States Railroad Administration	36,047,460.14
Settlements with short line carriers	732,240.11
Loss on account of replacement in kind at end of Federal control of materials and supplies taken over from carriers at beginning of Federal control because of increases in prices	101,080,602.36
Administrative expenses from Jan. 1, 1918, to Dec. 31, 1924.	32,663,094.63
Special claims of carriers, maintenance, depreciation, retirements, etc.	185,308,306.08
Miscellaneous charges	12,008,361.16
Total	\$1,196,684,443.80

Less net interest collections on bank balances, securities and settlements with carriers, in excess of interest payments. \$73,184,443.80

Net estimated cost to the United States Railroad Administration \$1,123,500,000.00

## STATEMENT OF LARGER CARRIERS WITH WHOM FINAL SETTLEMENTS HAVE BEEN MADE UP TO AND INCLUDING DECEMBER 31, 1924

Name of carrier	Carrier's claim		Tentative set-up of administration accounts	
	Amount of original claim	Amount of final claim	for discussion in final settlement	Amount of final settlement
Alabama & Vicksburg	1,059,593	512,724	164,477	275,000
Alabama Great Southern	2,960,165	4,036,423	459,525	1,530,000
Ann Arbor	1,346,515	603,601	*1,469,246	*600,000
Atchafalaya, Topeka & Santa Fe (including subsidiaries)	97,766,862	54,971,093	8,264,387	21,500,000
Atlanta & West Point	*391,050	*126,277	494,544	*440,000
Atlanta, Birmingham & Atlantic	736,103	590,438	*1,051,282	1
Atlantic Coast Line (including subsidiaries)	15,901,108	9,147,206	3,042,343	5,500,000
Baltimore & Ohio (including subsidiaries)	25,670,612	34,376,946	*40,818,816	*9,000,001
Bangor & Aroostook (including subsidiaries)	1,979,281	1,532,844	*318,406	575,000
Belt Railway Co. of Chicago	492,442	419,654	*4,962	140,000
Bessemer & Lake Erie	9,146,209	7,697,282	2,297,991	3,050,000
Boston & Maine (including subsidiaries)	14,133,510	8,585,574	*5,788,763	2,470,000
Brooklyn Eastern Dist. Tadm.	397,819	354,502	*627,880	*125,000
Buffalo & Susquehanna	725,962	562,216	*207,662	465,000
Buffalo, Rochester & Pittsburgh	8,304,465	7,294,465	*737,153	1,000,000
Carolina, Clinchfield & Ohio (including subsidiaries)	2,008,693	2,113,390	*404,988	550,000
Central of Georgia (including subsidiaries)	1,580,074	3,507,606	*66,033	1,000,000
Central New England	1,610,136	105,814	*646,549	90,000
Central R. R. of New Jersey	21,294,729	22,546,316	498,855	4,500,000
Cent. Vermont (inc. sub.)	6,144	336,068	*1,940,627	*700,000
Charleston & Wn. Carolina	1,411,901	1,787,422	1,351,607	1,450,000

\*Due government.

Name of carrier	Carrier's claim		WASHINGTON, D. C.	
	Amount of original claim	Amount of final claim	Tentative set-up of administration accounts for discussion in final settlement	Amount of final settlement
Chesapeake & Ohio (including subsidiaries)	6,258,820	3,143,207	*8,832,779	*7,000,000
Chicago, Burlington & Quincy (including subsidiaries)	42,599,539	30,840,858	*1,122,483	8,000,000
Chicago Great Western	9,605,088	10,582,748	654,925	1,600,000
Chic., Indianap. & Louisville	1,634,130	1,305,460	*1,528,707	150,000
Chicago, Milwaukee & St. P.	25,973,715	25,973,715	*20,699,070	*6,250,000
Chicago, Peoria & St. Louis	745,863	450,556	*757,077	1
Chicago River & Indiana	30,105	48,930	18,764	45,000
Chicago, Rock Island & Pacific and subsidiaries	20,502,690	10,171,365	*13,160,117	*2,500,000
Chic., St. P. Minneap. & Om.	7,001,350	5,566,278	375,141	1,200,000
Chic., Terre H. & S'heast'n	1,633,291	1,600,917	*1,284,519	35,000
Chicago & Alton	449,276	1,740,315	*6,954,839	*1,526,083
Chicago & Eastern Illinois	5,016,563	5,016,563	*916,650	3,000,000
Chicago & Northwestern, including subsidiaries	45,586,030	34,918,823	*1,774,495	6,500,000
Cinn. Indianapolis & West'n.	2,820,502	2,833,770	*828,992	400,000
Cinn., N. Orleans & Tex. Pac. and subsidiaries	7,242,040	4,542,932	*2,683,798	525,000
Cincinnati Northern	610,327	195,273	*304,209	*100,000
Cleve., Cinn. Chicago & St. L. (including subsidiaries)	3,164,525	*4,900,630	*6,264,631	*5,000,000
Colorado & So. (inc. sub.)	5,850,888	4,659,654	757,760	1,775,000
Columbus & Greenville	334,958	463,941	*35,730	30,000
Cumberland	12,000	12,000	*4,124	12,000
Del. & Hudson (inc. sub.)	4,710,903	4,728,596	*5,930,500	*1,500,000
Del., Lackawanna & Wn.	7,237,943	7,785,065	1,441,094	5,000,000
Denver & Rio Grande	8,417,133	6,768,332	*274,563	800,000
Detroit & Mackinac	479,938	244,844	*43,530	105,000
Detroit, Toledo & Ironton	955,696	*981,284	*2,929,883	*1,250,000
Detroit & Toledo Shore Line	140,361	146,976	*51,769	65,000
Detroit & Toledo Shore Line (additional compensation)	119,022	118,871	.....	118,249
Detroit Terminal	469,369	417,328	331,598	375,000
Duluth & Iron Range	6,420,052	6,411,289	4,981,450	4,866,000
Duluth, Missabe & Northern	12,104,397	12,013,698	8,495,928	8,525,000
Duluth, So. Shore & Atlantic	1,009,497	313,151	3,389	80,000
Elgin, Joliet & Eastern	7,269,642	8,169,398	3,195,202	3,700,000
El Paso & Southwestern	2,492,245	2,131,373	*671,786	*400,000
Erie, including Chic. & Erie	15,853,320	10,494,832	*12,710,654	*3,250,000
Florida East Coast	1,577,622	1,122,987	777,777	750,000
Ft. Worth & Denver City	1,698,025	1,841,476	*85,198	725,000
Galveston, Houston & Henderson	300,534	118,685	*29,763	34,000
Galveston Wharf Co.	172,432	172,432	17,139	85,000
Georgia R. R. (inc. Monroe)	127,645	845,662	136,300	150,000
Georgia & Florida Ry. (including subsidiaries)	30,110	32,703	*194,397	*97,000
Georgia, S'th'n. & Fla. (including subsidiaries)	844,497	1,155,081	*271,458	50,000
Grand Trunk of Canada	2,789,688	1,402,278	*3,624,086	*250,000
Gt. N'th'n. (inc. sub.)	29,837,038	22,262,348	*4,978,829	6,591,054
Green Bay & Western (including subsidiaries)	462,006	466,093	367,869	400,000
Gulf & Ship Island	1,054,600	821,327	324,447	575,000
Gulf Cst. Lines (inc. sub.)	2,611,223	4,514,089	*1,107,260	800,000
Gulf, Mobile & Northern (including subsidiaries)	572,668	572,668	*238,271	*100,000
Hocking Valley Ry. Co.	1,103,898	562,955	*2,243,642	*700,000
Ill. Cent. (inc. sub.)	8,407,815	*4,084,657	*10,816,519	7,750,000
Indiana Harbor Belt	*207,117	*375,471	*997,056	*495,000
Internat'l. & Gt. Northern	4,433,300	5,316,564	*1,859,629	100,000
Kans. City, Mex. & Orient, & Kans. City, Mex. & Orient Ry. of Texas	1,169,854	976,621	*274,777	250,000
Kansas City Southern	7,322,357	8,792,620	*2,102,084	1,500,000
Kansas City Terminal	10,317,996	10,539,675	*377,407	275,000
Kans. Okla. & Gulf (inc. sub.)	145,598	*1,355,340	*1,261,930	*1,410,000
Lake Erie & Western	1,526,437	3,438,525	*222,015	700,000
Lake Superior & Ishpeming	65,605	225,763	104,739	140,000
Lehigh & Hudson River	262,963	512,708	153,189	225,000
Lehigh & N. Eng. (inc. sub.)	994,346	917,954	363,807	675,000
Lehigh V. R.R. (inc. sub.)	10,721,463	9,810,394	*3,711,164	4,600,000
Los Angeles & Salt Lake	3,111,145	1,807,317	*581,444	800,000
Louisiana & Arkansas	262,559	262,558	118,814	200,000
Louisville & Nashville	26,518,857	22,362,405	3,672,004	7,000,000
L'ville, Hend'son & St. L.	1,124,002	1,056,832	657,605	660,000
Maine Central	3,687,936	4,398,717	*844,880	850,000
Mich. Cent. and sub.	*4,266,987	*6,740,134	*13,153,258	*10,500,000
Midland Valley	1,691,517	1,691,517	*702,074	550,000
Minneapolis & St. Louis	1,612,284	1,703,263	*2,621,318	*1,250,000
Minn., St. P. & Sault Ste. M.	8,014,431	6,491,119	*2,521,949	525,000
Mississippi Central	387,824	347,660	74,440	220,000
Missouri, Kansas & Texas	17,228,630	13,288,703	*203,330	5,000,000
Missouri, Kans. & Texas Ry. of Texas	1,025,555	*640,545	*6,866,877	*3,600,000
Missouri Pacific R.R. Co. (inc. subsidiaries)	22,183,237	21,362,834	4,104,124	9,000,000
Mo. & No. Arkansas	155,868	*292,000	*462,171	*292,000
Mobile & Ohio	3,852,208	4,299,604	*1,104,743	700,000
Monongahela Ry. Co.	*2,430,719	*1,687,194	*2,099,581	*1,900,000
N'ville, Chattanooga & St. L.	5,659,535	5,189,086	*1,665,538	700,000

\*Due government.



Name of carrier	Carrier's claim		Tentative set-up of administration accounts	
	Amount of original claim	Amount of final claim	for discussion in final settlement	Amount of final settlement
New Or. Great Northern....	318,519	335,095	249,871	190,000
N. Y. Chic. & St. Louis....	7,995,139	7,829,529	*1,503,033	3,000,000
New York Central system....	10,862,597	*17,417,967	*33,581,791	*23,000,000
N. Y., N. H. & Hartford....	17,389,213	7,553,752	*397,443	3,316,500
New York, Ontario & West'n.	2,383,889	2,242,518	78,642	500,000
N. Y., Susquehanna & West- ern and subsidiaries....	1,194,787	760,458	*799,167	*100,000
Norfolk & West'n. (inc. sub.)	9,375,762	8,013,152	7,201,649	7,285,000
Norfolk Southern.....	526,635	184,968	*361,048	*200,000
Norfolk Alabama.....	385,185	613,889	*148,987	125,000
No. Pacific (inc. sub.)....	25,796,397	23,706,415	4,601,832	10,599,914
N'western Pac. (other accts.)	479,747	918,638	407,258	525,000
N. W'n. P. (mat'l & supplies)	.....	325,000	298,260	325,000
Pacific Fruit Express Co....	4,894,991	4,716,585	2,203,658	2,925,000
Pennsylvania System (inc. Maryland, Delaware & Vir- ginia, West Jersey & Sea- shore & Long Island, etc.)	*48,504,182	*53,814,578	*187,116,682	*90,000,000
Peoria & Pekin Union Ry. Co.	135,000	135,000	*8,087	135,000
Pere Marquette.....	13,904,416	9,148,656	*528,033	750,000
Phila. & Reading (inc. sub.)	22,506,505	*3,879,420	*14,089,125	*8,000,000
Pittsburgh & Lake Erie....	7,909,501	6,681,154	*3,940,018	*250,000
Pittsburgh & Shawmut.....	960,540	835,302	58,792	325,000
Pittsburgh & West Virginia.	4,015,246	1,972,464	*1,026,498	720,000
Pullman Co. ....	24,424,264	16,004,446	5,143,841	7,250,000
Rich'd, Fr'dicks'bg & Potomac.	271,773	99,644	63,477	94,000
Rutland R. R. Co.....	818,132	719,410	215,126	350,000
San Antonio & Aransas Pass.	936,639	1,287,004	403,666	1,000,000
San Ant., Uvalde & Gulf...	490,500	1,163,596	*204,834	210,000
Seaboard Air Line.....	6,897,797	11,254,948	*8,694,521	750,000
So. Pac. Co. (inc. sub.)....	62,771,567	54,252,694	*6,914,633	9,250,000
Southern Ry. Co.....	35,683,801	40,204,822	*18,929,490	8,357,730
Spokane, Portland & Seattle.	2,577,977	2,577,977	1,842,246	1,600,000
St. Jo. & Grand Island....	1,749,419	1,725,728	986,358	1,000,000
St. Louis Merchants Bridge & Terminal Co. ....	226,839	*126,857	*458,715	*205,000
St. Louis-San Francisco Ry. Co. (including subsid.)....	8,454,114	7,519,660	*5,061,433	550,000
St. Louis Southwestern Ry. Co. (including subsid.)....	9,109,006	5,529,966	*7,604,383	*700,000
Term. R. R. Assn. of St. L.	803,469	832,953	*841,416	60,000
Texas & Pacific.....	984,215	*533,199	*4,492,886	*1,400,000
Toledo, Peoria & Western....	625,037	618,389	218,900	325,000
Toledo, St. Louis & Western	2,028,538	793,615	*493,576	150,000
Trinity & Brazos Valley....	87,594	138,935	*303,884	*100,000
Ulster & Delaware.....	1,706,837	1,306,837	266,504	390,000
Un. Pac. (inc. subsid.)....	23,528,896	22,295,988	*2,770,533	8,000,000
Vicksburg, Shreveport & Pac.	705,174	616,303	68,751	250,000
Virginian Ry. Co.....	5,071,277	8,911,429	7,115	2,100,000
Wabash Ry. Co.....	17,729,811	13,694,184	*2,143,616	1,500,000
Western Maryland.....	6,512,851	5,523,224	*4,638,424	*800,000
Western Pacific.....	14,347,007	11,025,451	3,569,889	4,235,274
Western Ry. of Alabama....	41,367	593,395	49,089	100,000
Wheeling & Lake Erie....	2,057,006	2,103,230	*1,618,179	440,000
Wichita Falls & Northw'n...	560,891	644,111	*366,786	3,500
Yazoo & Mississippi Valley..	5,473,216	5,063,072	4,898,070	5,075,000

\* Due government.

The longer table published herewith gives the amounts of the claims of the larger carriers and the tentative set-up of the Railroad Administration's claims against the carriers, together with the amount of the final payment in settlement one way or another. An explanation of this table is included in the text of the report, some extracts from which are as follows:

It should be understood that final settlements were based on the accounts as prepared and set-up made by the government and not upon the claims presented by the carriers. The final adjustments were made in "lump sums," in accordance with the Railroad Administration's theory of liability, adjusted to meet such meritorious modifications as resulted from the final hearing.

In no instance was the carrier advised as to the specific allowances made upon particular items claimed, except in the case of noncontract roads, where it was necessary under the law to certify to the Interstate Commerce Commission the amount of compensation finally agreed upon.

There are in the records of the Railroad Administration the details of the investigations made by the administration in setting up its accounts, a record of the office and field examination made of the carrier's accounts, and a full statement showing in detail the items and allowances which finally made up the lump sum paid or collected. Each of these adjustments bears the written and unanimous approval of the director general and the members of his staff.

### Maintenance Claims

The standard return for the properties taken over and actually operated for the 26 months of federal control, based upon a pro rata portion of the test period, was \$2,029,065,871.26. The compensation provided for in the standard contracts, plus the sum allowed to the noncontract roads, aggregated \$2,087,323,593.97. This total allowance was \$58,257,722.71 in excess of the standard return, and is accounted for by the increased cost in the operation of joint facility terminals, and adjustments coming within the exceptions of the federal control act.

The claims of the carriers for undermaintenance, because of their large amount, and the difficulty in agreeing upon rules which would bring about fair results, were the most difficult of determination.

The claims of the carriers for undermaintenance of way and structures and undermaintenance of equipment, as originally presented for the 26 months of federal control, aggregated \$677,510,607.

The final rule adopted by the Railroad Administration in making these settlements and in recognizing the liability of the government in the matter of maintenance, was to "match" the expenditures of the carriers made during the pro rata time of the test period corresponding with the period of federal control, making due allowance for any difference that existed between the cost (price) of labor and materials, taking into consideration any difference in the amount of property taken over as between federal control and the test period, and any difference in use substantial enough to be considered, these expenditures to be subject to a fair distribution, as provided for in paragraph (a) of section 5 of the standard contract. I believe this rule, followed as consistently as was humanly possible in all adjustments, making in exceptional cases, when the accounting method resulted in grossly unjust conclusions, equitable modifications, came as near as practicable doing substantial justice between the parties.

### Maintenance of Way and Structures

Claims for undermaintenance of way and structures, as originally presented, aggregated \$341,825,409.62. The carriers presented claims upon theories all the way from a straight accounting comparison between the test period and the period of federal control to what is called a physical comparison, with many combinations of the two. In some instances, claims for maintenance were made on the basis of the service life consumed of the various units of the property. Consideration of these claims would have required the director general to pay the carriers depreciation charges which were not paid or charged during the test period and, if they had been so charged or paid, would have reduced the standard return. Such claims were uniformly rejected.

The total obligations of the Railroad Administration for maintenance of way and structures, as developed by the accounting test, aggregated some \$1,650,000,000. As heretofore stated, the undermaintenance claims for way and structures, as originally presented by the carriers, totaled \$341,825,409.62. The net amount of undermaintenance of way and structures allowed in final settlement was \$163,734,035.51, which means that the director general in this matter complied with over 90 per cent of his obligation. Considering the disturbed conditions during the period of federal control, the scarcity of labor in many portions of the country, and the inability promptly to obtain materials, this is considered a creditable showing from the administration's standpoint.

The greater part of the allowance for this undermaintenance represents conceded shortage in the application of the major items of rail, ties, ballast, and track labor. For instance, there was an approximate shortage of 42,300,000 cross ties, 710,000 tons of rail, some 5,000,000 cubic yards of rock and gravel ballast (the ballast figure is to some extent incomplete, because all ballast applied is not recorded). There was also a shortage of over \$40,000,000 in track labor. The shortage in rail and ties represented 1,936 tons of rail and 115 ties per mile of all track taken over.

Involved in the maintenance-of-way adjustment were some 2,958 special claims, consisting of 5,218 separate items requiring investigation. These claims aggregated \$29,077,748.34, and were known as section 8 claims. These claims involved capital expenditures made largely for track, terminal, and wharf facilities constructed to assist in the transportation incident to temporary camps, store houses, and the like, which, after the war, were alleged to be of no permanent benefit to the carriers. Many difficult questions were involved in these adjustments, of which the following is a summary:

Of the original amount claimed, \$5,324,000 was either canceled or referred to other departments for adjustment, leaving the net amount reported on by the department of maintenance of way and structures \$23,753,748.34. The final allowance made to the carriers amounted to \$8,390,359.86. As a result of the check made by the department, claims aggregating \$2,670,359.27 were withdrawn, and the amount rejected was \$12,693,029.21.

### Maintenance of Equipment

The adjustment of the claims for undermaintenance of equipment presented the most difficult and involved questions growing out of this entire liquidation. In addition to the 2,408,518 freight cars, 66,070 locomotives, and 55,939 passenger cars originally taken over, the adjustment included new equipment purchased by the carriers and the Railroad Administration and cars owned by private car companies.

The total claims filed for undermaintenance of equipment proper, private car company claims, and protested charges for additions and betterments investigated by this department, aggregated \$343,373,308.

In the matter of the maintenance of locomotives, the methods used by the several companies in preparing and presenting their claims varied widely. Some claims were based upon a comparison of expenditures as between the test period and the period of federal control. The majority of the claims were based upon an attempted physical comparison of the units as between the date of the beginning and the date of the end of federal control. Many of the claims contained large items based upon the alleged inefficiency of labor. The physical comparison was largely supported by a comparison of what are known as major or classified repairs made during the two periods, and a comparison of locomotive mileage obtained during the test period, the federal control period, and the period subsequent to March 1, 1920. Investigation of these claims required an infinite amount of checking of comparative repairs, performance, and the like.

As to freight cars, a still more difficult proposition was presented. Prior to federal control, a pooling of freight cars by all lines had been inaugurated, and a continuance of this plan resulted in perhaps 55 to 75 per cent of the freight cars in service during the period of federal control being on foreign lines, and not under the control of the owning carriers. As each company was charged with the cost of running repairs on cars in its possession and not solely on the cars which it owned, and as the cars were scattered among all carriers throughout the country, it was impossible accurately to determine the amount of money expended upon the cars owned by any particular company.

Again, many companies had in progress rebuilding and rehabilitation plans of greater or less importance, as applied to their freight equipment, and these general plans of rehabilitation were interrupted during the federal control period.

A policy of joint checking by representatives of the carriers and representatives of the Railroad Administration was in many instances adopted. This tended to reduce disputes as to questions of fact.

The original claims of the carriers (not including private car lines, shop machinery, etc.) for undermaintenance of equipment aggregated \$323,237,013.21. These have all been adjusted.

Private car companies filed original claims aggregating \$11,925,257.60. The Pullman Company finally claimed, for undermaintenance of some 7,637 Pullman cars and equipment, an aggregate of \$9,600,023.18. Involved in this claim was the cost of reconverting to standard sleepers 601 tourist sleepers, the director general having converted 601 standard sleepers into tourist sleepers.

The Pullman Company's account contained some claims quite unique in character. There was a claim for \$571,059 for sheets lost or destroyed, pillow slips \$256,233, towels \$417,893, porters' coats \$114,661, and headrest linen covers \$133,750. The use of Pullman cars in troop transportation undoubtedly resulted in much carelessness, but perhaps unpreventable, destruction of property.

Claims for 93,501 units of equipment retired for causes other than fire were presented in the sum of \$77,242,341.42. This required not only the ordinary analysis, but an investigation to ascertain whether or not the equipment was destroyed by an "extraordinary" flood, explosion, train wreck, or accident, as is specially provided for in paragraph (e) of section 5 of the standard contract.

Claims numbering 549, and covering 20,079 items, in the matter of additions and betterments, as applied to equipment, were protested by the carriers on the ground that they were not necessary for the normal operation of the road, and should be paid for by the government rather than the carriers. These claims required field investigations. Claims of this character aggregated \$8,211,037.19 and were settled by an allowance of \$637,878.41.

There were also protested capital expenditures (section 8 claims, standard contract), in connection with equipment and shop machinery, involving questions of retirement, and whether reconstruction expenditures should be charged as maintenance to the Railroad Administration or to the carriers as capital account.

Under the rules of the Interstate Commerce Commission, when equipment is rebuilt to an extent that the renewals, additions and betterments constitute the major part of the unit after the rehabilitation is completed, it is necessary to retire the old unit and charge it as rebuilt to capital account. There were serious controversies in regard to work of this character, as to whether the cost of same should be charged to the Railroad Administration as maintenance or should have been borne by the carriers as capital charges. Recoveries for the administration in this matter were made in the sum of \$9,048,421.78.

This department investigated a total of \$343,373,308 of claims. This includes demands for undermaintenance of the carriers generally, claims of private car companies, and protested charges for additions and betterments. In final settlement, these claims were adjusted for an aggregate of \$39,423,676.99, or 11.24 per cent of the amount claimed.

#### Excess Maintenance Expenditures

The question as to whether or not the government was justified in insisting upon, and could enforce the collection of charges against the carriers, in specific cases, for maintenance expenditures made during the period of federal control in excess of similar expenditures made by the carriers during the test period, properly

equated as to differences in the cost of labor and materials, and making due allowance for differences in property and use, was the subject of most careful and painstaking consideration.

Practically every carrier presented and with much insistence contended for compensation in the matter of undermaintenance of its property, both in way and structures and equipment, and in almost every instance the carriers undertook to show, by a physical comparison, that, as a matter of fact, their respective properties were not returned to them, in accordance with the language in the President's proclamation, repeated in the federal control act, and again in the standard contract, to wit, "in substantially as good repair and in substantially as complete equipment as it was on January 1, 1918."

The question of the right of the government, under any circumstances, to charge the carriers for excess expenditures in the way of maintenance, was most bitterly contested in the preparation of the standard contract. A general right of this kind would have permitted the government to consume, through maintenance expenditures, all of the compensation for the use of the property, and either wholly destroy or materially reduce the income of the carriers during the period of federal control, and their ability during that period to pay fixed interest charges and the usual dividends. After much discussion, paragraph (b) of section 5 of the standard contract, covering excess expenditures, was agreed upon.

When it came to applying the rules laid down by the contract, before claims for excess expenditures could be insisted upon, it was practically impossible to comply with the contract conditions definitely provided for.

No special account of excess expenditures, properly chargeable to the carriers under the provisions of paragraph (b) of section 5 of the standard contract, was ever opened or kept by the administration, and, with the exception of a very limited number of comparatively unimportant instances, no consent from the carriers was obtained approving expenditures of this character and agreeing in any way to be responsible for same.

No effort was made in the way of accounts and charges during the period of federal control to separate and distinguish as between current charges for maintenance and what might be claimed to be deferred maintenance. Manifestly no claim could be made against the carriers for current or ordinary maintenance. It was impossible, as a practical proposition, save in exceptional cases, after these maintenance expenditures had been made and federal control ended, to segregate with any sort of definiteness items upon which charges for deferred maintenance could be predicated. In practically every instance the carrier contended its property was not returned to it in as good physical condition as when turned over, and these claims were ordinarily supported by substantial evidence and quite reasonable theories.

In this matter of excess maintenance expenditures, the government, as regards the contract roads, was practically in the position of a tenant, operating a highly complicated plant, who in the course of operation makes maintenance expenditures, using his own judgment as to the amount and character of same, such expenditures being made without the consent or approval of the owner of the property, and, when the rent comes due, the tenant attempts to reduce the agreed rental by deducting what he claims were excess maintenance expenditures voluntarily made by the tenant upon the landlord's property without his consent or approval.

In the case of noncontract roads, there was no basis for such a charge, as all maintenance charges were voluntary expenditures upon the property taken from the owner, without its consent, and, in this situation, there being no contract, there was no legal ground upon which such a charge could be sustained.

As to contract roads, the charge could only be insisted upon when the excess expenditures quite clearly came within the provisions of the contract previously referred to.

The radical difference between the claims of the carriers in the matter of alleged undermaintenance and the set-up of the government in the matter of alleged excess expenditures should be emphasized. The carriers' claims for undermaintenance were based not only upon definite rules of law, requiring the government, as part of the compensation for the use of the private property which it seized, to return same to the owners in substantially as good condition as when it was taken, but also the very positive announcements to this effect made by the President in his proclamation taking over the carriers' property, repeated by Congress in the federal control act, and again repeated in the standard contract, while the government's set-up for excess expenditures as to non-contract roads was purely a voluntary expenditure upon property taken from the owner without its consent, and these expenditures were made without the approval of the owner. With the contract roads, the right to recover excess expenditures was so limited and conditioned by the terms of the standard contract that it was not possible in most instances to bring these expenditures in definite and certain amounts within the conditions and limitations creating a liability.

[The remainder of this report will be abstracted in an early issue of the *Railway Age*.]



## General News Department

The National Association of Purchasing Agents will hold its tenth international convention and exposition in Milwaukee, Wis., on May 25 to 28.

The state of Massachusetts has enacted a law authorizing railroads to make use of motor vehicles (on the highways) to carry passengers, provided such action is approved by the Department of Public Utilities.

The winners in the Southern Pacific's fuel saving contest for its engineers and firemen will be sent at the expense of the company to the annual convention of the International Railway Fuel Association at Chicago in May.

The machine shop of the Delaware & Hudson, Carbondale, Pa., was damaged by fire on the evening of March 20; estimated loss including a number of machine tools, \$30,000. The fire is believed to have started from defective wiring.

Ten robbers, with a motor boat, succeeded in stealing nine cases of silk on the 26th street pier of the Lehigh Valley Railroad, New York, on the night of March 22. They surrounded and overpowered the single watchman, and got away in short order. The silk was valued at \$40,000.

The shops of the Pennsylvania Railroad at Sunbury, Pa., according to report, are soon to be closed. These shops, employing about 500 men, have been in operation since 1876. Reports say that the skilled workmen will be employed by the road at other places. The Sunbury shops are not equipped for repairing modern large locomotives.

A committee of engineers representing the greater harbor committee of Long Beach, Cal., and Los Angeles, and the Southern Pacific, the Union Pacific, the Atchison, Topeka & Santa Fe and the Pacific Electric have reported that unification of railway terminal facilities on Los Angeles Harbor can be carried out at a cost of \$250,000. The plan involves the completion of the municipal belt line which will connect all the harbor lines now in use.

One hour, twenty-four minutes was the time required recently by H. W. Lehr's crew, at the Thirty-second street repair shop of the Pennsylvania Railroad, at Pittsburgh, Pa., to take out the 12 wheels of a dining car and put other wheels in their places. This was in an emergency when a diner which had started on a special run from Philadelphia to San Francisco had its wheels flattened, because of an emergency application of the brakes, at a point east of Pittsburgh. Mr. Lehr's crew consisted of A. C. Hussong, A. Dawidowicz, J. Bruszak, J. Pavlovic, M. Dvorabic, J. Koss, J. Starkowitz, F. Pasko, P. Sikora, C. Belancey, P. Starkowitz, R. Cillo, J. Stacherski, J. Lujic, J. Majkut, L. M. Bauer, J. Kozak, G. W. Euler, F. C. Johnson, J. Grosiak, A. Teofilak and S. Pluto. The train waited for the car.

### "Tax Cost to Operate This Train"

The Wrightsville & Tennille, running two passenger trains each way daily between Tennille, Ga., and Hawkinsville, 75 miles, finds difficulty in making receipts cover expenses; and to impress upon passengers the fact that the public is in part responsible for the situation (and therefore for the failure of the railroad to provide more ample accommodations) posts in the cars large colored placards headed with the title quoted above. To one train, running 150 miles a day, is apportioned \$27.85 of the tax-burden borne by the company for each day. According to the last Poor's Manual, the average number of passengers in the trains is only fifteen, representing a gross income for the train of less than \$100 for the 150 miles. It appears, however, that these trains earn something additional, a part of the time, by hauling some freight.

### Hocking Valley Appoints

#### Delegates to London Congress

The Hocking Valley will be represented at the International Railway Congress in London this June by W. J. Harahan, president, G. B. Wall, vice-president, and R. N. Begien, vice-president in charge of operation. The names of delegates appointed so far by other railroads were published in the *Railway Age* of February 28, 1925, page 528.

### Freight Claim Division Meeting

The thirty-fourth annual session of the Freight Claim Division of the American Railway Association will be held at the Hotel Muehlebach, Kansas City, Mo., on May 25 to 28. In addition to the usual consideration of committee reports, special emphasis will be placed upon the progress of the carriers as a whole in the prevention of freight loss and damage. Details of the program have not yet been worked out but preliminary plans include a number of addresses by prominent railroad men.

### The C. N. R.'s Debt

During the calendar year 1924 the total addition to the funded and unfunded debt of the Canadian National was \$118,899,186.05, and the total amount of interest required on that was \$69,632,747.14, according to a statement in the House of Commons at Ottawa by Hon. George P. Graham, Minister of Railways and Canals, in answer to questions asked by Sir Henry Drayton. Of the total addition to the debt \$90,814,026.70 was due the public and \$28,085,159.35 was due the government. Of the total amount required for interest on that addition to the debt \$38,361,704.14 was due the public and \$31,271,043 due the government.

### Forestry on the Southern

To demonstrate the results that can be obtained by applying scientific forestry practices to timber lands in the South, the Southern Railway is improving 12,000 acres of standing pine in Dorchester county, South Carolina, and has put in charge of the land a forester and three assistants. The company will market the full grown timber while preserving the young trees for future growth. As the present loblolly stand is cut, slash pines will be planted, so as hereafter to produce turpentine as well as timber.

Lincoln Green, assistant to the president of the road, calls attention to the fact that timber can be produced in the South in half the time required in more northern latitudes. By introducing slash pine he expects to extend the naval stores industry into territory where it is now unknown.

These lands were originally purchased as a source of fuel supply for the old South Carolina Railroad, now the Charleston division of the Southern.

### Freight Container Bureau

The Freight Container Bureau has sent to the president of the American Railway Association its annual report for the 12 months ending with March 1. This bureau employs a small corps of engineers to investigate the manufacture and use of boxes, crates, and other things used in transporting shoes, eggs, furniture, fruit, cook stoves and other commodities. The report contains a list of 19 circulars, issued during the past three years, embodying the results of 19 studies of this kind. In the eleven months ending with February 1, the chief engineer and his assistant held 1,050 conferences with shippers, manufacturers and railroad men, and made over 700 inspections of containers, besides giving lectures and doing other things. The present report consists of only eight pages; but three appendices, covering tests of barrels and other

kinds of containers, fill out the pamphlet to a total of 54 pages.

The president of the Bureau is W. A. Worthington (Southern Pacific) and the secretary is H. J. Forster, 30 Vesey street, New York City.

As recently announced in the *Railway Age*, Col. B. W. Dunn, heretofore chief engineer of the Bureau, now devotes his whole time to the Bureau of Explosives. The chief engineer of the Freight Container Bureau is Edward Dahill, Jr.

### Locomotive Inspection Bureau's February Report

The Bureau of Locomotive Inspection in the month of February inspected 5,732 locomotives, of which 2,648, or 46 per cent, were found defective and 267 were ordered out of service, according to the Interstate Commerce Commission's monthly report to the President on the condition of railroad equipment. The Bureau of Safety during the same month inspected 96,249 freight cars, of which 3,803, or 3 per cent, were found defective, and 1,523 passenger cars, of which 27 were found defective. Twenty-two complaints, involving 50 violations of the safety appliance acts, were transmitted to various United States attorneys for prosecution.

### Enola Sets Up a Mile-Stone

The shop of the Pennsylvania Railroad at Enola, Pa., opened on July 25, 1923, which repairs the steel cars of the company, has lately completed work on the ten thousandth car, and the job was celebrated by having a photograph taken of J. W. Priest and his gang of 43 men, who did the work on this car.



Forty-three Car Repairers and Forty-three Pairs of Goggles

It will be noted that this is not one of those shops where the rule requiring the wearing of goggles is more honored in the breach than in the observance. The total number of men employed in this shop at present is 833, of whom 419 own shares in the railroad company's stock. For the repair of steel cars there are three runways, on each of which there are three gangs of 43 men each; and two tricks are worked, thus employing 18 gangs in all. The daily output of this shop is from 37 to 40 cars. Repairing and rebuilding is done here for all parts of the Pennsylvania System.

### Thirteen Killed in Head-on Collision

Thirteen persons were killed and eleven were injured when westbound Southern Pacific passenger train No. 109 met eastbound passenger train No. 12 in a head-on collision at 3 a. m., March 22, 900 ft. east of the east switch of the passing track at Ricohoc, La., where train No. 12 had orders to head in. Those killed were the engineer and fireman of train No. 109, a baggageman, a newsboy and nine negro passengers. Both engines and two baggage cars were badly damaged and one passenger coach was demolished. The damage to property was estimated at \$30,000. The engineer of train No. 12 had an order to wait at Ricohoc until 3:05 a. m. for train No. 109. He failed to observe this order as well as a

stop signal from his conductor and a warning from his fireman. He also ran by a block signal which was set against him.

The engineman who was killed, Edward E. Connery, of New Orleans, La., was about to retire from active service. He had been in railway service since 1878 and had been an engineman for the Southern Pacific for 41 years. His record was unmarred by serious accidents.

### Meeting of Executive Committee

#### of Association of Railway Executives

The Executive Committee of the Association of Railway Executives met at the Yale Club, New York, on March 20, for the purpose of considering various routine matters, this being the first meeting of the committee for nearly three months. William H. Williams, chairman of the board of the Wabash, was added as a member of the committee.

The tentative plan formulated by the War Department following conferences with the Military Committee of the Association of Railway Executives for the control of railroad transportation in the event of war was submitted to the Executive Committee and received consideration. The plan will go later to the member roads for approval.

The committee appointed to study the question of stabilizing railroad employment, which is headed by Daniel Willard, president of the Baltimore & Ohio, made a progress reports. It was stated by the chairman that statistical information with respect to actual fluctuations in the number of employees in the maintenance of equipment and the maintenance of way and structures

departments had been obtained. This information is now in process of being tabulated and analyzed. In these figures are the underlying facts upon which must be based all practical recommendations for improvements looking toward continuous employment of railway employees.

The Executive Committee also considered the general transportation situation with a view of continuing to meet without transportation difficulties the record freight traffic which has been in progress since the first of the year.

### I. C. C. Increasing Its Valuation Force

Having been granted a large increase in its appropriation for valuation work for the fiscal year 1926, in order to speed up the work, the Interstate Commerce Commission is now working on plans for the addition of 266 persons to its Valuation Bureau staff, which will raise it to a total of approximately 600. The appropriation granted for the year is \$1,946,462, based on a three-year program for completing the underlying work. Two staffs are being organized for the conduct of hearings on protests against the tentative reports, of which it is estimated there will be some 600 more. The first is a staff of 47 examiners and reviewers under the principal valuation examiner, M. A. Pattison, whose



duties will be to hold hearings, prepare reports, etc.; and there is also to be a staff of 43 lawyers, under C. W. Needham, solicitor of the Bureau of Valuation, who will represent the bureau and the general public interest in the hearings on protest and brief and argue the cases before the commission. It is expected that some of these will be called upon to follow into the courts the cases which may be carried there on appeal.

Commissioner E. I. Lewis, who has direct supervision of the Bureau of Valuation, writing to John E. Benton, general solicitor of the National Association of Railway and Utilities Commissioners, says that this enlargement of staff affords an excellent opening for men now identified with state regulatory work, who seek the broader national field. The state commissions are asked to call the matter to the attention of those who have qualifications for the work. The positions will carry salaries ranging from \$3,000 to \$6,000. They are all under the Civil Service Commission, which has sent out notices calling attention to the need of men.

### The Great Syracuse Blockade

The great snow storm at Syracuse, N. Y., on January 29-30, blocked the main line passenger traffic of the New York Central about 17 hours and freight traffic for more than two days; and the clearing of the yards in and around Syracuse enlisted the services of over 5,000 men, of whom about 4,000 were regular employees of the company.

The snow was fully four feet deep in Syracuse and vicinity, making the storm worse for the railroad than that of 1888 or that of 1895. This extreme depth was confined to a small area; places 30 or 40 miles away reported much lower figures.

The experience of the New York Central with the storm has



East Syracuse Looking West

After the battle had been partly won.

been made the subject of an article in the New York Central Magazine, for March, by A. W. Davis. The delays to eastbound trains began with the obstruction of the track a short distance east of the station, by a derailed street car, which held up train No. 36 for three hours. This was sufficient to give the storm a lead which could not be overcome. Westbound train No. 11, the Southwestern Limited, was stalled a quarter mile east of the station, where the track lies in the street, and it took nine hours to get the two locomotives and nine cars of this train over the 80 rods to the station.

The freight yards, extending a distance of six miles along the main line, consist of 130 miles of track, and the clearing of these tracks, with their 636 switches, was the most formidable task. Over 1,000,000 cubic yards of snow had to be removed. Two rotary snow plows were brought in from the Ontario and St. Lawrence divisions, and were used to throw the snow northward from the main tracks.

There were about 6,000 cars in the yard, and besides relieving these cars from the four feet of snow which had fallen upon and

around them, much work had to be done in clearing off snow which was thrown upon them by the rotaries, this method of moving the snow by stages, having been necessary as a choice of evils.

Mr. Davis pays a hearty compliment to the employees who did work outside their own duties. He says that practically every employee of the company in that vicinity, including the telephone girls, volunteered for any and every duty of which they were capable. Many men shoveled snow who had previously had very little acquaintance with shovels. Brakemen and other yard employees to the number of about 500 engaged in this work. Volunteers from the office force worked long hours supplying coffee and sandwiches to the shovelers.

### Another Record for Safe Hump Yard Operation

L. G. Waldrop, superintendent of the Nashville (Tenn.) Terminals (Louisville & Nashville and Nashville, Chattanooga & St. Louis) writes that there is a hump crew working on the first shift at Nashville, which he believes has made a very creditable record. In two years this crew of eight men has handled 146,000 cars without causing any damage. In this period of two years this crew has had only two derailments; one caused by a defective switch and the other by a broken flange, both derailments being of slight consequence.

Other records made by hump crews which have been published in the *Railway Age* recently are as follows:

Place	Crews	Time	Total cars	Cars damaged		Reported in <i>Railway Age</i>
				No.	P. C.	
Pitcairn, Pa. ....	One	4 months	57,467	0	.0	Feb. 14-434
Pitcairn .....	All	103 days	297,373	81	.000272	Feb. 14-434
W. Morrisville..	All	4 months	135,209	25	.000185	Mar. 14-759
Harrisburg .....	.....	.....	.....	..	.000248	Mar. 14-759
Enola .....	.....	.....	.....	..	.000289	Mar. 14-759
Hbg. and Enola. ...	.....	.....	.....	..	.000268	Mar. 14-759
Nashville .....	One	2 years	146,000	0	.0	.....

The members of the Nashville crew are: Foreman J. W. O'Hara, Engineer J. D. Lancaster, Fireman J. H. Harrison and Switchmen John McGovern, E. A. Rayburn, Z. T. West, John Saunders, and W. A. Hood.

### Southern Pine Association Meets at New Orleans

The problems of the lumber industry were discussed at the two sessions of the fifth annual meeting of the Southern Pine Association, which were held at the Hotel Roosevelt in New Orleans, La., on March 24 and 25. The speakers at the meeting and their subjects were as follows: "Transportation Today and Tomorrow," by C. H. Markham, president, Illinois Central; "Principles of Lincoln Applied to Present Day Problems," by Dr. John Wesley Hill, Chancellor, Lincoln Memorial University, Washington, D. C.; "The Business of Growing Trees," by Colonel William B. Greeley, chief of the United States Forest Service, Washington, D. C.; "What the Southern Pine Manufacturer is Doing to Preserve the Forests," by John L. Kaul, chairman, Forestry Committee, Birmingham, Ala.; "Grade-Marking—The Culmination of Many Years' Work and Experiments," by C. C. Sheppard, chairman, Committee on Grade-Marking, Oakdale, La.; "The Practical Application of Grade-Marking in Sawmill Operation," by F. H. Farwell, Litcher & Moore Lumber Company, Orange, Texas; "The Southern Pine Manufacturer's Interest and Part in the National Standardization Program," by W. T. Murray, chairman, Grading committee, Rochelle, La. The topics which were discussed included the lumberman's viewpoint on reforestation and conservation as a national problem; the effect of taxation on forestry reproduction; the forestry situation in the various southern pine producing states; the effect of the small and portable mills on the total lumber production of these states; the protection grade-marking affords the public and its costs; the demand for grade-marking lumber; the attitude toward it of the retail lumber dealer, the architect, the contractor and the engineer; progress being made in the national standardization of sizes; action contemplated at the next general standardization conference upon the question of short lengths; result of survey on the production and use of short and odd lengths; standards for flooring under the American lumber standards; advisability of end-matching of short lengths of flooring; and effect of standardization upon southern pine weights, moulding patterns, double-end trimmings and shipment of mixed lengths.

## Traffic News

The Great Northern, on April 16, extended the milling-in-transit privilege to lumber shipments originating in British Columbia. The privilege previously had been confined to shipments originating in the states of Washington, Idaho and Montana.

A meeting of counsel and traffic officers of the railways was to be held at the Washington offices of the Association of Railway Executives on Friday, March 27, to consider in a preliminary way questions presented by the Interstate Commerce Commission's general rate structure investigation under the Hoch-Smith resolution.

The Madison Traffic Club, Madison, Wis., was organized on March 12 and the officers elected were, president, S. L. Foote, director of the Traffic Bureau of the Madison Association of Commerce; vice-president, R. G. Nuss, of the T. M. Nuss Implement Company, and secretary-treasurer, R. H. Cavanaugh, of the Chicago, Milwaukee & St. Paul.

The Southern Railway reports only one passenger killed on its line in the year 1924, and that one was killed by his own fault, having jumped off a moving train. The total number of passengers carried in the 12 months was 17,602,921. This was about 700,000 less than the total number carried in 1923 and the average journey was 66.18 miles, 2.32 miles shorter than the average in 1923.

A joint meeting of the Chicago Shippers' Conference Association and the Chicago Claim Conference to consider ways of reducing claims, will be held at the Hotel Sherman, Chicago, on April 2. The session which will be an open meeting will be opened by a short address by a railroad president, followed by an address of welcome and a general discussion of matters of mutual interest to carriers and industrial traffic men.

The Salt Lake (Utah) committees of the Near East Relief have just sent two car loads of flour to the Relief headquarters for use in the orphanages in Palestine, the fifth shipment made by these committees in the last six months. This flour was given by hundreds of farmers of Utah, and the railroads carried it to the Atlantic Seaboard without charge. Activities of this kind, in the view of the relief committees, constitute the most appropriate way of carrying out the injunction to

"SAY IT WITH FLOURS."

The Car Service Division of the American Railway Association has issued its annual bulletin for 1924, as a statistical digest of related economic and transportation factors applied to the movement of the country's production during 1924 and prior years. A careful analysis of the trend of transportation factors, production prices and shipments has been made to serve as a background of business and railroad conditions and to give individual railroads and shippers a competent guide, statistical reference and index to industrial and agricultural activity, together with the performance of railway transportation during 1924.

The Illinois Central now sells travel club certificates at all stations. With these certificates weekly payments may be made on round trip tourist tickets to certain destinations for future use. The plan is designed for the convenience of persons who expect to go on vacations six months or a year hence and who wish to pay in periodical instalments. By paying a small sum weekly transportation can be provided by the time it is needed. In addition to the partial payment method, a further inducement is offered prospective travelers in reductions from the regular round trip tourist fares ranging from 8 to 10 per cent. This is equivalent to interest paid by the railway company on advance payments.

The Central of New Jersey has petitioned the Interstate Commerce Commission to order the re-establishment through routes, and joint rates, for freight over the Central of New Jersey to and from New England points, by way of New York Harbor; and a hearing has been set for April 30. Prior to 1908, freight moved by this route, being transferred on car floats across New

York Harbor. Now, and ever since 1908 the Jersey road sends its New England freight by way of Maybrook, N. Y., and the Poughkeepsie Bridge. The present petition avers that this arrangement unjustly deprives the Central of a part of the haul which rightfully belongs to it; and also deprives it of traffic in certain commodities, notably anthracite and cement. The petition says that the facilities of the New York route will be improved on the completion of the new bridge across Newark Bay.

### American Railway Development

#### Association to Meet at San Antonio

The American Railway Development Association will hold its next annual meeting at the St. Anthony Hotel, San Antonio, Tex., on May 13 to 15. The organization comprises the industrial, agricultural, immigration, colonization, publicity, real estate and other development departments of the railways. The program, which is now being arranged, will include addresses by prominent speakers and discussion of various problems connected with railway development work. The arrangements are in charge of H. M. Madison, farm and immigration agent of the San Antonio & Aransas Pass, San Antonio, Tex.

### Statistics of Vegetable Shipments

A statistical bulletin showing carload shipments of vegetables from stations in the United States for the calendar years 1920-1923 has been published by the United States Department of Agriculture. Rapid development of the vegetable industry during the past few years has multiplied the problems of marketing and has greatly increased the demand for statistics.

The new bulletin, Statistical Bulletin No. 9, shows for each of 18 kinds of vegetables the number of cars billed from every station shipping 10 or more cars in any one year, grouped by states and counties. The information has been compiled from monthly mail reports furnished the department by about 15,000 station agents of railroad, express, and boat lines. Copies may be obtained from the Department of Agriculture, Washington.

### Freight Traffic to and From Cuba

F. M. Giralt, general agent of the Southern Pacific at Havana, Cuba, writing in the Southern Pacific Bulletin of his work in that territory, says that eggs, in car loads, from Texas, constitute a considerable item in the business which he looks after. Refrigerator cars carrying these eggs reach Havana by the 90-mile car ferry from Havana. Cuba is a market for a great variety of products from this country, including onions which come in car loads not only from Texas, but, during a part of the year, from California. The Southern Pacific also brings garbanzos (chick peas) from Mexico for Havana. The Chinese residing in Cuba number about 60,000. Members of this colony are continually traveling to and from China. The Southern Pacific carries these people under guard to and from Pacific ports. Mr. Giralt says that Havana, the population of which is about 500,000, is visited every year by more than 50,000 American tourists. The Isle of Pines, which is 40 miles south of Havana province, ships most of its fruit to the United States through the port of Havana. The Isle of Pines Steamship Company runs a boat daily to and from Batabano on the south coast of Cuba.

### Freight Traffic in January

Freight traffic in January was the greatest for any January on record with the exception of January, 1923, which exceeded it by 1.8 per cent, according to compilations made by the Bureau of Railway Economics. It amounted to 37,035,162,000 net ton miles. In January, 1923, the volume of freight traffic amounted to 37,706,628,000 net ton miles. Freight traffic in January, 1925, showed an increase of 7.3 per cent over that for the same month last year, and an increase of 5.9 per cent over 1920.

The decrease of 1.8 per cent as compared with two years ago was in spite of the fact that the number of cars loaded with revenue freight in January this year was the greatest on record for that month, exceeding by 5 per cent the record for the same month in 1923 and by 3.6 per cent that of January, 1924.

The Eastern District showed an increase of 6.5 per cent; the Southern 4.2 per cent and the Western District an increase of 9.9 per cent, as compared with last January.



The daily average movement per freight car in January was 26.5 miles. This exceeded by seven-tenths of a mile the best previous average for that month, which was attained in January, 1923. It also exceeded by one and one-half miles the daily average for January last year and by nine-tenths of a mile the daily average for December, 1924.

The average load per car in January was 28 tons, three-tenths of a ton greater than the average for the same month last year but one ton less than that for January, 1923.

### Regional Advisory Board at Kansas City

The Trans-Missouri-Kansas Regional Advisory Board held its regular meeting at Kansas City, Mo., on March 18, with an attendance of over 200. Coal production for the next 90 days was estimated at 95 per cent of that of the corresponding period of 1924. Brick and clay products reported a gradual increase compared with last year and lumber and building materials a normal volume. Oil production was expected to be 10 to 15 per cent in excess of a year ago; salt, lime and plaster a 10 per cent increase, and lead and zinc ores, 5 to 10 per cent increase. The agricultural committee reported an outlook for even a larger crop in 1925 than a year ago and has found a larger volume of wheat on the farms than in previous years.

Railroads reported no traffic congestion of any kind. Donald D. Conn and L. M. Betts, representing the American Railway Association, were among the speakers; also L. T. Hussey and J. W. Greenleaf, of the Kansas Public Service Commission, and C. E. Child, of the Omaha Chamber of Commerce.

Clyde M. Reed was re-elected unanimously as chairman. Other officers for the ensuing year are V. E. Smart, chief of transportation, Missouri Public Service Commission, alternate chairman; E. N. Adams, manager, Tulsa Traffic Association, vice-chairman; J. H. Tedrow, transportation commissioner, Kansas City Chamber of Commerce, secretary; and W. L. Harvey, assistant secretary. The board voted to hold its next meeting in Tulsa, Okla., on June 17, 1925.

### What the Automobile Does for the Railroads

Finished automobiles and parts shipped by railroad in the year 1924 aggregated 726,000 carloads, according to an estimate made by J. S. Marvin, assistant general manager of the National Automobile Chamber of Commerce; and, says Mr. Marvin, "the manufacture and use of motor cars creates such an immense traffic for the railroads that their recent prosperity is in no small degree attributable to the expansion of the automobile industry." Tire shipments he estimates at 50,000 carloads.

Further, Mr. Marvin says that of the 7,780,625,085 gallons of gasoline consumed in this country in 1924, 80 per cent or 6,225,000,000 gallons, was for automobile use. After allowing for local deliveries from refineries the shipping of the balance is estimated at 640,000 tank carloads. Continuing, he says:

"Coal, steel and raw materials used in the manufacture of automobiles are also a factor. An instance of collateral business that helps the railroads is the movement of road building materials, cement, sand and gravel. Total cement shipments in 1923 were 552,613 carloads, much of which went into roads and bridges.

"If complete segregated data on this whole question were available it is estimated that 2,000,000 carload shipments could be credited as the annual contribution to the rail carriers through the manufacture and use of automobiles. An appreciation of these figures is had from comparison with other commodities. The extent of the wheat crop has always been watched as a barometer of railroad prosperity. The Interstate Commerce Commission's complete carload statistics of 1923 credit wheat with 572,394 carloads and corn 400,723 carloads.

"Bar and sheet iron, structural iron and iron pipe 915,392 carloads, brick and artificial stone 532,613 carloads, are among the leading commodities, while refined petroleum and its products, which include gasoline shipments, heads manufactured articles with 1,306,390 carloads.

"Total carload shipments of manufactured articles in 1923 were 10,266,677 carloads."

EMPLOYEES of the Southern Pacific submitted during the last year 4,025 suggestions for ways to prevent accidents, an increase of more than 600 over the previous year. Of these, 2,915 suggestions were approved.

## Commission and Court News

### Interstate Commerce Commission

The first response to the commission's suggestion in its announcement of a general rate investigation under the Hoch-Smith resolution, that it would entertain applications to reopen cases already decided or for further hearings in cases not yet decided, came in the form of a petition filed on March 18 by the interveners in the lake cargo coal rate cases, involving rates on bituminous coal by boat to the northwest from Ohio, Pennsylvania, West Virginia, Virginia, Kentucky and Tennessee, for further hearings in the light of the declarations of the resolution. It was stated that the language requiring the commission to consider "the conditions prevailing in our several industries" make it incumbent upon the commission to consider the condition at present of the coal industry, which at the time of the hearings was not considered by it to be germane to the issues.

### Personnel of Commissions

#### Woodlock Given Recess Appointment to I. C. C.

President Coolidge on March 25 announced that he had given a recess appointment to Thomas F. Woodlock as a member of the Interstate Commerce Commission to succeed Mark W. Potter. It had been stated at the White House on Tuesday that the President intended to get in touch with Mr. Woodlock, whose appointment was not confirmed by the Senate, to ascertain whether he would accept a recess appointment, in view of the uncertainty of a salary under such conditions and the doubt as to whether the appointment will be confirmed by the Senate at the next session. It was therefore understood when the appointment was announced that Mr. Woodlock had indicated a willingness to serve under the conditions. The President was represented at the White House as being in sympathy with the desires of those who wanted a man appointed from the South but it was stated that he had offered the position to the only man from that section he had been able to find with the particular qualifications especially desired at this time, and that this man, from South Carolina, had been unwilling to give up his own business. It was stated that plenty of men familiar with rate questions were available but that it is felt that the vacancy should be filled by one technically qualified by experience with railroad financial matters.

### Court News

#### Railroad Not Liable for

##### Flagman's Wages at Railroad Crossing

The Louisiana Supreme Court holds that one railroad crossing another is not liable for one-half of the wages of a stationary flagman where not required for the public protection, and an order of the state commission requiring flagmen to be sent ahead at such crossings where the view is obstructed does not create any such joint liability.—New Orleans Terminal Co. v. Pontchartrain (La.) 99 So. 424.

#### Limitation of Time for Action for Undercharges

##### Not Extended by Transportation Act

The Circuit Court of Appeals, Eighth Circuit, holds that the time limit for actions for undercharges where the cause of action accrued prior to the Transportation Act was not extended by that act to three years from the date of its passage, but action is barred in three years from accrual of cause of action. The provision of the Interstate Commerce Law for recovery of undercharges is not for the benefit of the carrier, but for the protection of the public, so that the statutory limitation violates no vested right of the carrier.—Button v. Atchison, T. & S. F., 1 Fed. (2nd) 709.

## Labor News

Morse operators and managers in the smaller towns, automatic and telephone operators in the larger cities and members of the clerical staffs of the Canadian National Telegraphs will share in wage increases varying from \$5 to \$30 per month, which was embodied in an agreement signed last week in Toronto by W. G. Barber, head of the company, and officials of the Commercial Telegraphers' Union.

A decision by Judge Thomas H. Darby in the common pleas court at Cincinnati, Ohio, on March 17, on the Brotherhood of Railway and Steamship Clerks litigation held that the grand executive committee, in removing Grand President Edward H. Fitzgerald from office, had acted contrary to law. The court also ruled that Fitzgerald, in ordering the names of the members of the grand executive committee stricken from the rolls, had acted without authority. He ordered Fitzgerald restored to his office and the members of the executive committee to their duties. The fight within the ranks of the brotherhood began over Fitzgerald's activities as president of the brotherhood bank in Cincinnati. When the grand executive committee voted to remove him from office, Fitzgerald replied by appointing a trial board which in turn removed the committee members from office.

## Labor Board Decisions

### Application of Call Rule in Travel Service

Several employees of the Chicago & North Western were called at 6:45 p. m., after completion of their regular day's work, to go to another town on account of a wreck. They were held on duty from 6:45 p. m., June 12, to 3 a. m., June 13, and were compensated as follows: From 7:30 p. m. to 8 p. m., rate and one-half while loading tools and material; 8 p. m. to 9:30 p. m., half time rate for time consumed in going to point of wreck; 9:30 p. m. to 1 a. m., rate and one-half while working at wreck; 1 a. m. to 3 a. m., time consumed in returning from wreck to headquarters. The employees claimed that all time held on duty on account of the call, namely from 6:45 p. m., June 12, to 3 a. m., June 13, should have been paid in accordance with the following rule: "Employees notified or called to perform work not continuous with the regular work period will be allowed a minimum of two hours' pay at rate and one-half for two hours' work or less and if held on duty in excess of two hours, rate and one-half will be allowed on the minute basis." The Railroad Labor Board upheld this contention. It overruled the position of the management that travel and waiting time should have no connection with the call rule and that the rule quoted above covering calls was only applicable to the service performed at headquarters from 6:30 p. m. to 7 p. m. in accumulating tools and for service performed at point of wreck from 10:30 p. m., June 12, to 6 a. m., June 13.—*Decision No. 2876.*

**AFFIRMING** 290 Fed 983, the Circuit Court of Appeals, Third Circuit, holds that a contract giving a pipe line a right of way over a railroad's right of way in consideration of the shipment of a specified tonnage of oil over the railroad in interstate commerce at a rate less than the published tariff was void under sections 2 and 6 of the Interstate Commerce Act. The contract was held to be indivisible, and not separable into payments for the right of way and payments for the transportation of oil.—*C. N. J. v. U. S. Pipe Line Co., 1 Fed. (2nd) 866.*

**PLAINTIFF** was injured by a federal postal clerk on defendant's train throwing a mail sack out at the wrong place while the train was running about 35 miles an hour, in a municipality where the maximum legal speed of trains was six miles an hour. There was no evidence that the speed of the train had any causal connection with the mail bag being thrown out at the wrong place. The Mississippi Supreme Court holds that the proximate cause of the injury was the act of the mail clerk, for which the railroad was not responsible.—*S. & N. v. Daniels (Miss.) 99 So. 434.*

## Foreign Railway News

### Several New Railway Tunnels

#### Through Alps Planned

LONDON

Several alternate routes for Alpine railway tunnels are being considered, according to the Times (London). Italy and Switzerland are apparently mutually jealous of each other in the matter and are trying to lay out lines wholly within their respective territories.

There are two projects, however, for international lines—with one portal in Italy and the other in Switzerland. These are via the Greina and Splügen passes. The projects vary in cost from \$5,000,000 to \$60,000,000.

### German Railways Under the Dawes Plan

LONDON

The first monthly report of the German Railway Company has been issued and is summarized by the Times (London) in part as follows:

The report shows a decline in the demand for railway cars in January of 1.8 per cent as compared with December. No inference of a decline in trade can be drawn from this. The decrease was seasonal and there were various increases to set off against it.

Returns are available only down to the end of December. These show for December:

Train-miles run, passenger service, 15,392,000; freight service, 10,231,000.

Axle-miles run, passenger service, 448,322,000; freight service, 938,854,000.

The report states that the wish of certain business circles that there should be a general reduction in railway rates could not be met owing to the financial situation of the railways. A systematic arrangement of the tariffs has, however, been worked out, and when it has taken shape trade interests are to be consulted before it is put into operation.

The December receipts were as follows: Passenger traffic, 95,658,000 marks; freight traffic, 226,228,000 marks; sundry revenue, 23,217,000 marks. Total, 345,103,000 marks.

The receipts from October 1, the date on which the business year of the company begins, were as follows: Passenger service, 276,552,000 marks; freight traffic, 643,187,000 marks; sundry revenue, 53,313,000 marks. Total, 973,052,000 marks.

It is added that the receipts came up to the estimates and show the improvement that was expected to result from the reincorporation of the Ruhr and Rhine railways into the German system.

The form in which the returns have been issued has been adversely commented upon both in the Reichstag and in the press. It is pointed out that the report says nothing with regard to expenditure, whereas information is particularly required as to what surplus has been earned in order that German business interests may form an opinion as to the possibility of a reduction in rates.

In the Reichstag, when the estimates of the Ministry of Communications came up for discussion, it was suggested that the railway company was purposely keeping the public in the dark and some attacks in this sense were made upon Herr Oeser, until lately Minister of Communications and now director of the railway company.

The present Minister of Communications, Herr Krohne, stated that the railway company was under no obligation to send a representative to the Reichstag or to reply to its criticisms, but it had agreed to give all information required of it. As the railway would be very much in the center of public interest the company, in any case, would be unable to evade criticism.

The debate in the Reichstag showed that the German people is accustomed itself very slowly and very unwillingly to the idea of privately owned railways. The railways under state ownership have always been looked upon as subservient to the interests of the business community, which regarded the adjustment of rates to their requirements as their right. The Ministry of Communications now controls only the inland waterways and the road and air transport.



## Equipment and Supplies

### Locomotives

THE DETROIT & TOLEDO SHORE LINE is inquiring for 3 switching locomotives.

THE JACKSONVILLE TERMINAL COMPANY is inquiring for 4 switching locomotives.

THE FAIRPORT, PAINESVILLE & EASTERN has ordered one, 0-6-0 switching locomotive from the American Locomotive Company.

### Freight Cars

THE ONEIDA & WESTERN is in the market for a number of caboose cars.

THE ILLINOIS TRACTION SYSTEM is inquiring for from 50 to 100 hopper cars.

THE CALORIC COMPANY has ordered 10 tank cars from the Middletown Car Company. These cars are for service in Brazil.

THE CHILE EXPLORATION COMPANY, New York is inquiring for 2 tank cars of 10,000 gal. capacity and 15 flat cars of 50 tons' capacity.

THE NEW YORK RAPID TRANSIT CORPORATION is inquiring for 2 steel underframe flat cars and 2 steel underframe crane cars, both of 30 tons' capacity.

THE CENTRAL VERMONT will build 6 caboose cars in its own shops. An order for the steel underframes for these cars was reported in the *Railway Age* of March 7.

THE PIEDMONT & NORTHERN has ordered 150 automobile cars from the Pressed Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of February 28.

THE STANDARD OIL COMPANY OF NEW JERSEY has ordered 15 tank cars of 50 tons' or 10,000 gal capacity, from the American Car & Foundry Company. These cars are for export.

THE MISSOURI PACIFIC will have repairs made to 400 gondola cars in the shops of the American Car & Foundry Company at Memphis, Tenn. An inquiry for prices on the repair of this equipment was reported in the *Railway Age* of January 24.

THE SOUTHERN PACIFIC has authorized the construction in its own shops on the Pacific System 500 box cars of 50 tons' capacity and 50 steel-underframe cabooses; on the Texas lines, 300 box cars, for which it already has trucks, and 20 cabooses.

### Passenger Cars

THE ERIE is inquiring for about 30 steel underframes for passenger cars.

THE NORTHERN PACIFIC has ordered 10 observation cars from the Pullman Car & Manufacturing Corporation.

THE CENTRAL VERMONT will build 20 milk cars in its own shops. The order for the steel underframes for these cars was reported in the *Railway Age* of March 7.

THE FLORIDA EAST COAST has ordered 2 dining cars from the Pullman Car & Manufacturing Corporation. This company is now inquiring for 15 passenger coaches and will ask for bids on 15 baggage cars later.

THE NEW YORK CENTRAL has placed orders for 50 cars for passenger train service as follows: American Car & Foundry Company, 25, 60-ft. baggage cars; Standard Steel Car Company, 15, 60-ft. baggage cars and Pressed Steel Car Company, 10 steel coaches. Inquiry for this equipment was reported in the *Railway Age* of March 7.

### Iron and Steel

THE PENNSYLVANIA has ordered 600 tons of steel for repairs to a bridge at Sunbury, Pa., from the American Bridge Company, and has also given a contract for 300 tons to the McClintic-Marshall Company.

### Machinery and Tools

THE CHICAGO, BURLINGTON & QUINCY is inquiring for one motor-driven pedestal type dry grinder with 24-in. by 4-in. emery wheels, one motor-driven pedestal type dry grinder with 18-in. by 3-in. grinding wheels, and one motor-driven 200-lb. helve-type hammer.

### Miscellaneous

THE FLORIDA EAST COAST has ordered a 150-ton wrecking crane from the Industrial Works.

THE FEDERAL DISTRICT COURT for the Eastern District of Kentucky holds that the question whether an intrastate rate fixed by a state commission creates undue discrimination against interstate rates is for the Interstate Commerce Commission and not for the courts. The state commission cannot base an order reducing rates on information filed with it, but not introduced in evidence, so that the railroad may be heard thereon. The federal court has jurisdiction of a suit to enjoin enforcement of an order of the state commission reducing rates although the difference between the rates as to the shipper complaining is less than \$3,000, where the difference on all shipments would exceed that amount in a short time. Preliminary injunction was granted.—*Illinois Central v. Railroad Commission of Kentucky*, 1 Fed. (2nd) 805.

FREIGHT CARS ORDERED, INSTALLED AND RETIRED

Month 1924	Domestic orders reported during month	Installed during month	Aggregate capacity tons	Retired during month	Aggregate capacity tons	Owned at end of month	Aggregate capacity tons	An order as of first of following month	Building in R. R. shops
January	6,020	15,589	707,367	12,329	516,695	2,310,032	100,644,107	21,696	2,417
February	18,365	11,386	554,481	10,466	411,228	2,310,570	100,767,731	40,030	2,715
March	35,846	9,962	446,094	8,726	352,481	2,311,405	101,165,332	62,340	2,697
April	11,189	8,718	369,978	8,026	306,288	2,312,074	101,223,891	62,289	2,739
May	435	9,199	439,516	9,059	360,212	2,312,237	101,303,200	57,266	2,467
June	387	10,909	538,118	8,347	321,094	2,314,798	101,569,593	57,735	2,269
July	533	16,583	1,151,302	8,413	316,927	2,322,968	102,388,652	51,156	4,602
August	4,751	15,452	785,288	8,834	333,173	2,329,582	102,845,000	40,961	3,618
September	22,520	15,455	779,078	9,337	370,607	2,336,147	103,270,000	47,553	3,045
October	11,853	16,598	834,762	10,504	418,816	2,342,149	103,688,000	138,403	3,574
November	13,038	11,705	579,234	10,678	463,970	2,342,479	103,767,000	42,765	5,159
December	9,526	6,763	311,254	11,918	488,035	2,337,229	103,585,000	54,202	6,478
January, 1925	10,312	11,768	551,263	7,867	326,812	2,341,109	103,812,974	58,910	5,285
February	5,388								
Total for 2 months	15,700								

\*Corrected figure.

(1) Details as to orders from *Railway Age* Weekly reports. Figures include all domestic orders placed with builders and railroad shops but not rebuilt equipment.

(2) Figures as to installations and retirements prepared by Car Service Division A. R. A. Figures cover only those roads reporting to the Car Service Division. They include equipment received from builders and railroad shops. Figures of installations and retirements alike include also equipment rebuilt to an extent sufficiently so that under the accounting rules it must be retired and entered in the equipment statement as new equipment. The figures as to orders as given in the first column of table is not comparable with figures relating to installations given in succeeding columns.

## Supply Trade News

**The General Piston Ring Company**, Indianapolis, Ind., has moved its plant and offices to Tipton, Ind.

**The Standard Stoker Company, Inc.**, has removed its New York City office from 5054 Grand Central Terminal to 350 Madison avenue.

**The McGill Manufacturing Company**, Valparaiso, Ind., has appointed the **J. G. Pomeroy Company**, San Francisco, Cal., its Pacific coast representative.

**A. H. Beale**, president of the Lebanon Iron Company, Lebanon, Pa., has resigned to become president of the **A. M. Byers Company**, Pittsburgh, Pa.

**E. H. Batchelder, Jr.**, Lytton building, Chicago, has been appointed western railroad representative of the varnish and enamel division of the **Beaver Products Company**.

**J. J. Flaherty**, formerly in charge of welding for the Boston Elevated Railways, has been appointed director of sales of the **Page Steel & Wire Company**, with headquarters at Bridgeport, Conn.

**The Globe Steel Tube Company**, Milwaukee, Wis., has opened a district sales office at 444 Frisco building, St. Louis, Mo., and has appointed **E. C. Carroll** manager of sales for that district.

**Andrew C. Duncan**, 2835 Washington Boulevard, St. Louis, Mo., has been appointed district engineer for the **Elwell-Parker Electric Company**, Cleveland, Ohio, for the territory contiguous to St. Louis.

**George C. Hannaway**, formerly of the National Refining Company, has been appointed sales manager of the **T. J. Moss Tie Company**, St. Louis, Mo., with headquarters at 1142 Straus building, Chicago.

**C. A. Ilgenfritz**, assistant purchasing agent of the Youngstown Sheet & Tube Company, has been appointed purchasing agent of the **United Alloy Steel Corporation**, Canton, Ohio, to succeed **George W. Starr**, resigned.

**J. B. Murphy**, district sales manager for the Minneapolis territory of **J. D. Wallace & Company**, manufacturers of woodworking machinery, has been promoted to assistant sales manager, with headquarters in Chicago.

**H. G. Von Nostrand** of the sales department of the Illinois Steel Company, Chicago, and formerly manager of tie-plate sales of the Railroad Supply Company, Chicago, died on March 19 following an illness of six weeks.

**W. Sharon Humes**, sales representative of the Magnus Company, Inc., with headquarters in Chicago, has resigned to become sales representative of the **Central Brake Shoe & Foundry Company**, with headquarters in Chicago.

**Matt J. Herold**, formerly in charge of sales in the East Central division of the Wood-Imes Manufacturing Company, has resigned to become general sales manager of the **United States Electrical Tool Company**, Cincinnati, Ohio.

**Paul T. Farrell** of the purchasing department of the Youngstown Sheet & Tube Company, Youngstown, Ohio, has been promoted to assistant purchasing agent to succeed **C. A. Ilgenfritz**, resigned to accept a position with another company.

**Howard Longstreth**, secretary of the Lebanon Iron Company, Lebanon, Pa., has been elected president to succeed **A. H. Beale**, who has resigned to accept service with another company. **H. W. Pratt** has been appointed secretary-treasurer and **J. J. McDermott** has been appointed assistant treasurer.

**Harleigh H. Hartman** has opened an office, as consultant and adviser in railroad problems arising out of administration of the Interstate Commerce Act, at 610 Mills building, Washington, D. C. Mr. Hartman was formerly valuation attorney,

rate and finance examiner with the Interstate Commerce Commission.

**The Electric Storage Battery Company**, Philadelphia, Pa., has bought land as a site for a factory branch to be built in Boston, Mass., on Ashford street, near Babcock. The new building will cover about 35,000 sq. ft., and will consist of a two story office fronting on Ashford street, with a one story manufacturing establishment in the rear. It will be of modern daylight construction and the equipment will be modern in every respect.

**A. Van Hassel**, secretary of the **Magor Car Corporation**, with headquarters at New York, has been elected also vice-president. The company's works are at Passaic, N. J. Mr. Van Hassel was born on November 12, 1889, in Paterson, N. J., and he received his education in the grammar and high schools of that city. His first position was with the Rogers Locomotive Works. He subsequently entered the service of the Cook Locomotive Works in Paterson, N. J. Mr. Van Hassel became associated with the Magor Car Corporation in 1909, he served in various capacities until 1921 when he was elected secretary of the company, which position he still retains in addition to his new duties as vice-president. Mr. Van Hassel is also assistant treasurer and assistant secretary of the National Steel Car Corporation, Hamilton, Ontario.



A. Van Hassel

### Symington Company Issues Securities for Gould Coupler Purchase

The Symington Company has authorized an issue of \$1,500,000 three-year 6 per cent purchase money collateral trust gold notes, of which \$1,000,000, to be issued immediately, has been underwritten by Hambleton & Co., Hornblower & Weeks and associates. Proceeds will be used to reimburse the company for expenditures in purchasing a large majority of the common stock of Gould Coupler Company, and to purchase additional such stocks.

The Symington Company is purchasing about 84 per cent of the 300,000 common shares of Gould Coupler Company, for which it is to pay nearly \$900,000.

Acquisition of the Gould Coupler Company control adds materially to the assets and earning power of the Symington Company. Average earnings of the Gould Coupler Company for the past eight years were over \$1.20 a share. Current earnings are at the rate of \$2 a share.

Earnings of the Symington Co. before taxes were \$1,139,549 in 1924, against \$1,319,943 in 1923. Net average earnings, after all deductions in the past three years, have been sufficient to cover a \$2 dividend on the present 200,000 Class A shares, leaving a balance exceeding \$2 a share annually on the 300,000 shares of common.

### Western Electric Company

The annual report of the Western Electric Company for the year ended December 31, 1924, shows total sales of \$298,281,000, as compared with \$255,177,000 in 1923. The 1924 sales were the largest in the history of the company. The net earnings for the year available for common stock totaled \$8,399,358, equal to 10.7 per cent on the average book value of the no par value common stock during the year which was \$157.65 a share. Ten dollars a share was paid on the common or a total of \$5,000,000. The unfilled orders of the company at the close of the year aggregated \$92,014,000, as compared with \$94,951,000 at the end of 1923 and \$62,069,000 at the end of 1922. Of the total sales of \$298,281,000 in 1924, \$233,300,000 represent sales to the Bell Telephone Com-



panies, \$60,708,000 sales to other domestic customers and \$4,273,000 to the International Western Electric Company for export.

The income account for the year follows:

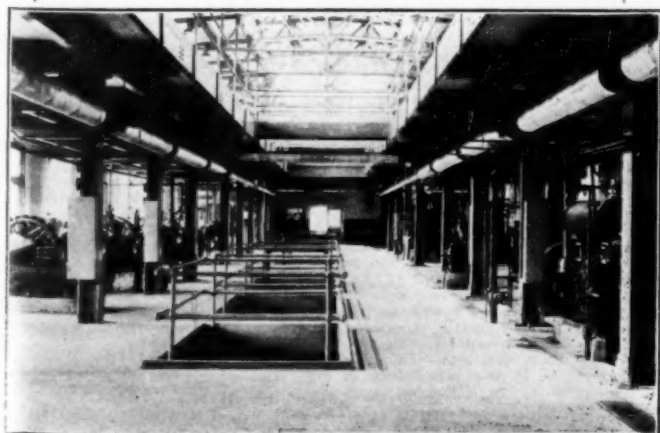
Sales .....	\$298,281,138	
Other income .....	1,212,004	\$299,493,142
Cost of merchandise .....	\$258,147,923	
Expenses .....	19,331,724	
Taxes .....	3,945,099	281,424,746
Balance .....		\$18,068,396
Appropriated for .....		
Additional depreciation on plant .....	\$1,562,539	
Addition to employees' benefit fund .....	2,000,000	3,562,539
Available for interest and dividends .....	\$4,378,927	\$14,505,857
Interest deductions and bond discount .....		
Dividends:		
On preferred stock 7 per cent per annum .....	1,727,572	
On common stock, \$10.00 per share, 500,000 shares .....	5,000,000	11,106,499
Balance carried to common stock .....		\$3,399,358

## Obituary

**John Luther Nicholson**, president of the Locomotive Firebox Company, with headquarters in Chicago, died on March 23 of pneumonia. He was born on June 25, 1875, in New York and came to Chicago to assist his father, who was master mechanic on the South Side Elevated Railroad Company at the time of its construction. In October, 1895, he entered the employ of the Chicago & North Western as a locomotive fireman on the Wisconsin division. Later he worked extra in the same position on the Galena division. In July, 1902, he was promoted to engineman and in 1903 was promoted to assistant road foreman of engines on the Wisconsin division. He held this position until April, 1905, when he became associated with the American Locomotive Equipment Company, Chicago, to handle the sale of hollow arches for locomotives, of which he was one of the inventors. Later he entered business for himself to handle the sale of appliances which he invented. In 1918 he invented the thermic syphon and organized the Locomotive Firebox Company, taking charge of the manufacture and sales as president, which position he held until his death.



J. L. Nicholson



Part of Mechanical Engineering Laboratory, Pennsylvania State College

## Railway Construction

**BOSTON & ALBANY.**—A contract has been awarded to the New England Construction Company, Springfield, Mass., covering the tearing down of the present station buildings, retaining wall, etc., at Springfield, Mass., preparatory to the erection of the new union station.

**CANADIAN NATIONAL.**—A group of citizens of Vancouver, B. C., is protesting against the construction of the proposed branch line from Brule Lake, Alta., into the Peace river region on the grounds that it would endanger British Columbia's investment in the Pacific Great Eastern. Premier John Oliver of British Columbia, has forwarded the protest to W. L. Mackenzie King, Premier of Canada, urging that the protest be respected.

**CANADIAN PACIFIC.**—Extension of the time, by two years, within which the Canadian Pacific must commence the construction of the Manitoba & Northwestern Railway and of two branch lines in the Province of Alberta was granted last week by the Standing Committee on Railways, Canals and Telegraph Lines of the House of Commons at Ottawa. An extension of the time for the completion of the Manitoba & Northwestern to five years was also granted. This line is to extend from Theodore, Sask., to a point between Govan and Lanigan in Manitoba.

**CANADIAN PACIFIC.**—The program of construction and betterments on the western lines this year includes the following projects: Stations will be constructed at Fraserwood, Man., Lauder, Petersburg, Griswold, Corquay, Sask., Willows, Ravenscrag, Alta., and Venalto. Coaling stations will be constructed at Eagle River, Man., Rocanville, Hazenmore, Sask., Abbey, Alta., Wetaskiwin, and North Bend, B. C. Steel water tanks will be constructed at English River, Man., Molson, Elkhorn, Broadview and Souris. Additional terminal yard tracks will be constructed at Fort William, Man., Ignace, Kenora, Vancouver, B. C., and Padanac, and additional passing tracks and extensions of existing tracks will be installed at Kaministiquia, Man., Raith, Finmark, Savanne and Notman. A yard office will be constructed at Winnipeg, Man., and a car repair shop will be built at Weston, Man.

**CHESAPEAKE & OHIO.**—The following projects have been authorized:

	Approximate Cost
Apex to Robbins—New Second Track .....	\$255,000
Russell to Riverton, Ky.—Third Track .....	210,000
Gregg to Waverly, Ohio—Second Track .....	100,000
Russell, Ky.—New Engine Terminal .....	1,108,456

The engine terminal at Russell will include a 14-stall roundhouse, a 115-ft. turntable, cinder conveyors, engine washing platform, machine shop power house, storeroom and necessary grading and tracks.

**CHICAGO, ROCK ISLAND & PACIFIC.**—The Interstate Commerce Commission has made public a proposed report by Attorney-Examiner Boles and Engineer-Examiner Gray recommending that the commission find that the public convenience and necessity have not been shown to require the construction of an extension from Billings to Owens, Okla., 8 miles, and the construction of a new line from Owens to Ponca City, Okla., 20.4 miles.

**ERIE.**—Bids will probably be called for about the first of May for the reconstruction of this company's piers at Jersey City, N. J., which were destroyed by fire several months ago.

**FORT WORTH & DENVER SOUTH PLAINS.**—This company has been incorporated in the state of Texas by officers of the Chicago, Burlington & Quincy for the purpose of constructing approximately 200 miles of line through eight counties centering about Estelline, Texas, to be used as feeders for the Fort Worth & Denver City, which is also controlled by the Burlington.

**GULF COAST LINES.**—Bids will soon be taken for the construction of a 29-mile extension from a point on the main line between Lyford, Texas, and Raymondville, to Edinburg. The project will

cost approximately \$450,000, as reported in the *Railway Age* of October 18, 1924.

**LONG ISLAND.**—A contract for the construction of an electric car repair shop at Morris Park, L. I., to replace the building recently destroyed by fire has been awarded to the Turner Construction Company and work commenced on March 23. The new building will be a three-story, reinforced concrete structure, 90 ft. by 218 ft., and will cost approximately \$225,000.

**MOBILE & OHIO.**—Plans are being made for the immediate reconstruction of the shop buildings at Murphysboro, Ill., which were destroyed by a tornado last week. The buildings to be replaced are a roundhouse, a storehouse, a reclamation shop, a car repair shed and a freight house.

**NEW YORK CENTRAL.**—Plans are being made to enlarge the coal dock facilities at Toledo, Ohio, including the installation of a coal unloading machine which will handle 100-ton cars and the remodeling of the present unloader.

**NORFOLK & WESTERN.**—The following contracts have been awarded:

Second main track Wilcox, W. Va., to Gary (1.5 miles) to cost approximately \$140,000, to H. M. Waugh, Bluefield, W. Va.

Second main track Tug, W. Va., to Wilcox (1.5 miles) to cost approximately \$130,000, to H. M. Waugh.

Construction of mine tracks on the Tug Fork branch to cost about \$90,000, to H. M. Waugh.

Additional track facilities to Berrys, Ohio, Ivorydale and Idlewild to cost approximately \$164,000, to Elmwood Comer, Cincinnati, O.

Ten passing sidings to cost approximately \$114,600 to be built on the Cincinnati district by company forces.

The company has authorized the following work for which contracts have not yet been awarded:

Replacement of wooden abutments with concrete on two bridges on the Widemouth branch in West Virginia to cost approximately \$21,500.

Rebuilding of 10 engine pits in roundhouse at Bluefield, W. Va., to cost about \$22,500.

Elimination of two grade crossings west of Williamson, W. Va., to cost about \$23,000.

**PENNSYLVANIA.**—Bids were received on March 18 for the construction of a low grade line from Canton, Ohio, to Bayard (15 miles) to cost about \$4,500,000. The contract has not as yet been awarded. The maximum grade on this line will be 0.3 per cent.

**PENNSYLVANIA.**—Joseph Moss, Philadelphia, has received a contract for the construction of a sewer in Buckius street, Philadelphia.

**READING.**—This company is reported to be contemplating the erection of additional shop facilities at Reading, Pa. Details are not yet available.

**SALT LAKE & DENVER.**—This company, of which J. M. Bamberger, of Salt Lake City, is vice-president, has applied to the Interstate Commerce Commission for a certificate of public convenience and necessity for the construction of a line from Provo, Utah, through the Uintah basin to a connection with the Denver & Salt Lake at its western end, Craig, Colo., 297 miles. The application states that this would provide a route 170 miles shorter than that of the Denver & Rio Grande Western between Provo and Denver. After referring to the application recently filed by the Denver, Salt Lake & Western, a subsidiary of the Denver & Salt Lake (Moffatt route), asking authority for a cut-off line between Orestod and Dotsero, Colo., which would connect the Denver & Salt Lake and the Denver & Rio Grande, it asks the commission not to grant the latter application because it would reduce the amount of traffic available to the proposed Bamberger road.

**DETROIT & MACKINAC.**—*Refused Permission to Abandon Branch.*—The Interstate Commerce Commission has refused an application for a certificate of public convenience and necessity permitting the abandonment of this carrier's Lincoln branch, extending from Lincoln Junction, Mich., to Lincoln, 14.66 miles. The railroad contended that the branch has been operated at a loss and that shippers may use the main line from Harrisville. The commission's decision says that Harrisville is too distant, that no other transportation facilities would be available other than unimproved highways, and points out that the tendency for traffic on the branch is to increase.

## Railway Financial News

**BOSTON & MAINE.—Receivership Again Asked.**—A petition asking that a receiver be appointed for the Boston & Maine Railroad, filed on March 24, in United States District Court at Boston, by Ellis G. Hall, of Oakland, Cal., a common stockholder, will come up on April 14 before Judge George W. Anderson who will set a date for hearing.

Conrad W. Crooker and George F. Tucker, counsel for Hall, in their petition pointed out that on February 2, 1925, the railroad defaulted on a \$500,000 bond issue and the road entered into an arrangement of extension with holders of approximately 90 per cent of the bonds by which date of payment was extended for 60 days to April 2, 1925. It is claimed this default was made notwithstanding the road had in its treasury over \$4,000,000 in cash.

The complainant alleges furthermore, that the road will not pay that portion of the February 2 maturities, payment of which has been extended to April 2 and that in consequence of such default further rights of foreclosure will be created. Complainant further alleges that the road will default payment of all of its May 1, 1925, maturities to the aggregate amount of \$3,660,000, which maturities are secured under the general mortgage.

Judge Morris, in the United States District Court at Concord, N. H., denied a petition of Edward F. Brown and others for a temporary receivership for the road on January 31 last.

**N. L. Amster Asks for Proxies.**—N. L. Amster, of Boston, has asked stockholders of the Boston & Maine for their proxies for the company's annual meeting, April 8, in opposition to the program of Chairman Homer Loring for the readjustment of the company's financial affairs. He has addressed to stockholders a communication reading as follows:

"Three months have passed since Mr. Loring's plan was published, and nothing has come of it except injury to the company's credit and the unwarranted depression of its securities. The usual formalities of appointing committees have been performed, but few of the members are familiar with railroad affairs, and none of them represents the rank and file of the stockholders. Even the directors were ignored. Mr. Loring published his financial plan without either consulting or obtaining their vote, which is unprecedented in financial history.

"My associates and I own substantial amounts of stock. We have faith in the property. We believe it has turned the corner, and that, if properly handled, will pay dividends on all classes of its stock. We feel that the stockholders should have representation on the board, and with this in view ask for your co-operation and your proxy for the coming annual stockholders' meeting. If you are in sympathy with this effort, kindly sign and return the inclosed proxy, which will be voted to elect directors who are free of any interest which seeks to control the property without owning it, and who will give the company conservative business management in the interest of the stockholders whose money is invested in this great railroad."

**CHICAGO, ROCK ISLAND & PACIFIC.—Preliminary Annual Report.**—The Rock Island has mailed to its stockholders a four-page preliminary statement of results of operation in 1924. The report contains the income account, a condensed general balance sheet and a page of explanatory remarks by President J. E. Gorman. Stockholders desiring the complete annual report may secure it upon application to the secretary of the company.

Mr. Gorman in his remarks said in part:

"The surplus for the year, after fixed charges and dividends on preferred stocks, amounted to \$4.36 per share on the common stock, as compared with \$1.22 per share in 1923. Following the policy which we adopted in 1917 immediately after the reorganization, the year's surplus was put into improvements to the property.

"While the gross revenue was practically the same as last year, the operating expenses decreased \$3,783,590, or 3.6 per cent, due principally to economies in operation and the improved condition of our equipment.

"The return of \$4.36 per share on the common stock amounted to only 4.18 upon the value of our property, which is far below what the law contemplates under the Transportation Act. The Interstate Commerce Commission is directed to prescribe rates which will afford the carriers, by groups, a return of 5 3/4 per cent upon aggregate property values in each group. The carriers in the group in which the Rock Island Lines are located last year earned less than 4 per cent on their combined property values. If the commission had authorized a schedule of rates which would have yielded 5 3/4 per cent to the railroads in the group to which the Rock Island Lines belong, our earnings would exceed the average earnings of the railroads in our group, and by reason of the fact that the value of our property is substantially greater than our capitalization, the return for our common stock would have amounted to about \$13 per share.

"The most important change in the balance sheet is the increase of \$11,061,700 in the investment in road and equipment. This is composed principally of the following items:

1. Additions and betterments to roadway and structures ..	\$2,516,120
2. New equipment, total .....	4,049,627
3. Acquisition of Keokuk & Des Moines line (hitherto leased) .....	2,641,000

"You will note from the balance sheet that our situation with respect to current liabilities is very good. There are no bank loans and no accumulations.

(Continued on page 861)



# Annual Report

## Canadian Pacific Railway Company

### Forty-Fourth Annual Report

OF THE

DIRECTORS OF THE CANADIAN PACIFIC RAILWAY COMPANY.

YEAR ENDED DECEMBER 31ST, 1924.

#### To the Shareholders:

The accounts of the Company for the year ended December 31st, 1924, show the following results:

Gross Earnings .....	\$182,502,156.26
Working Expenses (including all taxes).....	145,274,914.30
Net Earnings .....	\$37,227,241.96
Deduct Fixed Charges.....	14,070,286.78
Surplus .....	\$23,156,955.18
Contribution to Pension Fund.....	500,000.00
	\$22,656,955.18

From this there has been charged a half-yearly dividend on Preference Stock of 2 per cent., paid October 1st, 1924.....	\$1,990,369.62
And three quarterly dividends on Ordinary Stock of 1 3/4 per cent. each, paid June 30th, 1924, October 1st, 1924, and December 31st, 1924 .....	13,650,000.00
	15,640,369.62
	\$7,016,585.56

From this there has been declared a second half-yearly dividend on Preference Stock of 2 per cent. payable April 1st, 1925.....	\$2,002,971.76
And a fourth quarterly dividend on Ordinary Stock of 1 3/4 per cent., payable April 1st, 1925 .....	4,550,000.00
	6,552,971.76

Leaving net surplus for the year.....	\$463,613.80
In addition to the above dividends on Ordinary Stock, three per cent. was paid from Special Income.	

#### SPECIAL INCOME FOR YEAR ENDED DECEMBER 31ST, 1924.

Net Revenue from Investments and Available Resources, Exhibit "C" .....	\$645,755.69
Interest on Deposits, and Interest and Dividends on Other Securities .....	3,059,506.98
Net Earnings Ocean and Coastal Steamship Lines.....	3,630,675.20
Net Earnings Commercial Telegraph and News Department, Hotels, Rentals and Miscellaneous.....	2,635,314.13
	\$9,971,252.00
Less: Payments to Shareholders in dividends: June 30th, 1924, October 1st, 1924, and December 31st, 1924.....	5,850,000.00
	\$4,121,252.00
From this a dividend has been declared payable April 1st, 1925	\$1,950,000.00

#### Earnings and Expenses

2. The working expenses for the year, including all taxes, amount to 79.60 per cent. of the gross earnings, and the net earnings to 20.40 per cent., as compared with 80.86 per cent. and 19.14 per cent. respectively in 1923.

The gross earnings for the year were less by \$13,334,933 than those of the previous year, freight earnings alone decreasing \$10,794,416. Working expenses, however, decreased \$13,083,165, resulting in net earnings, before deducting fixed charges, of \$37,227,241, or a decrease under the previous year of \$251,768. The decrease in freight earnings is largely accounted for by the much smaller movement of grain and flour, particularly the former, owing to the smaller crop in Western Canada. There was also a substantial decrease in the movement of manufactured articles due to the depression which existed in Canada during the major portion of the year. In the circumstances, your directors feel that the results of the company's operations must be considered as satisfactory.

#### Special Income

3. The special income for the year shows a substantial decrease due to the failure of the Minneapolis, St. Paul and Sault Ste. Marie Railway Company to earn its dividends, and to decreases in investment securities held by your company. The results of the operations of your ocean fleets, to which detailed reference is made in a later part of this report, were unsatisfactory, due almost entirely to continued light freight business and to a somewhat smaller passenger traffic in the Spring and Fall months of the year. The steamship earnings were, however, assisted through the adjustment of outstanding tax questions with the British Government. This item, of course, is not a recurring one, and therefore an improvement in earnings for the present year can only be accomplished through the general increase of overseas traffic and the

maintenance of stable rates. The prospects for considerable immigrant travel during the coming year are good, but freight business is still suffering from the depressions of the last few years and from an excess of tonnage beyond the necessities of the traffic.

#### Land Sales

4. The sales of agricultural land in the year were 96,755 acres for \$1,790,081.17, being an average of \$18.50 per acre. Included in this area were 6,741 acres of irrigated land which brought \$53.26 per acre, so that the average for the balance was \$15.90 per acre. The land sales, while greatly in excess of those of the previous year, were still of moderate proportions, due to the continuance of the depression which has prevailed in the Prairie Provinces and the fact that immigration was not extensive, especially of those financially able to immediately purchase land holdings.

#### Sale of Securities

5. During the year your directors authorized the creation and sale of the following securities:

- (a) \$12,000,000 10-year 5 per cent Collateral Trust Gold Bonds, secured by \$15,000,000 four per cent Consolidated Debenture Stock, the issuance of which was reported and approved at the last annual meeting.
- (b) \$10,000,000 four per cent Consolidated Debenture Stock in coupon form, the issuance of which had been previously approved by you.
- (c) \$30,000,000 4 1/2 per cent Sinking Fund Secured Note Certificates, secured by the assignment of unpaid purchase moneys or deferred payments on lands sold.

The widespread character of the company's operations makes it necessary that it should always maintain substantial cash balances, and as provision should be made for the capital expenditures to which the company has been committed in previous years, it was decided to utilize the deferred payments on land sales as collateral security to an issue of note certificates which would enable such balances to be maintained and these expenditures to be met from time to time without increasing the fixed charges on your railway property and its revenues.

The net increase in the fixed charges of the company for the year was \$599,633.

During the year your directors sold £1,400,000 four per cent Preference Stock, the issuance of which you had previously authorized.

#### Balance Sheet

6. The company's balance sheet reflects the expenditures on its property and subsidiary properties and the financing done during the year. Current liabilities were reduced by \$9,800,000 under those outstanding at the end of the last fiscal year.

#### Canadian Pacific Steamships, Limited

7. The results of the operations of your subsidiary, the Canadian Pacific Steamships, Limited, for the year under review have been disappointing, particularly in so far as its Atlantic service is concerned. In anticipation of a considerable increase in passenger and freight traffic the schedules for the season were arranged to provide for ten additional sailings during the St. Lawrence season. The schedules of sailings of other companies were also enlarged with the result that competition was increased, and this and the drastic immigration laws of the United States, together with the failure of Canadian immigration to reach the proportions expected by the Government and the transportation companies, were the principal causes of the unsatisfactory showing. The steamship companies, in order to assist in making effective the immigration policy of the country, allowed a rebate of \$15 in the fare of each immigrant, but, notwithstanding this concession, the decrease in third class westbound passengers was 15,000 and the cost to the company of the rebate \$325,000, with a corresponding reduction in its net earnings. The total earnings westbound were \$1,743,000 less than in 1923. The eastbound passenger carryings were somewhat greater than in 1923, owing largely to the attraction of the Wembley Exhibition. Freight traffic showed a very moderate increase, amounting in earnings to \$503,000 and in tonnage to 125,000 tons. In the result, the operations of the Atlantic fleet showed a decrease in revenue from all sources of \$1,979,000 under 1923 and an increase of \$617,000 in expenses owing to the increased number of voyages. The earnings from the Pacific service, considering the conditions existing in Asia, were more satisfactory, with an increase in net revenue of \$200,000. An improvement in business to and from the Orient is expected because of the more stable commercial and political conditions now existing in these countries. During

[ADVERTISEMENT]

the year there was no serious accident to any of the vessels of your fleets.

#### Coastal Service

8. The revenues from the year's operations of the British Columbia Coast Steamship Service were slightly less than last year but still very satisfactory. As intimated in the last annual report, contracts for two new steamers named the "Princess Kathleen" and the "Princess Marguerite" were entered into, and the "Princess Kathleen" reached Vancouver on February 20th of this year. The "Princess Marguerite" will be delivered in a few weeks. Both vessels are of an extremely fine type and will, your directors feel, be found entirely suitable to the trade and a distinct addition to what is already a very excellent service.

#### Toronto Terminals

9. As the shareholders are aware, an agreement was entered into in 1914, to which reference is made in the annual report for that year, between the Grand Trunk Railway Company, your company and the Toronto Terminals Railway Company providing for the construction, pursuant to order of the Board of Railway Commissioners, of a union passenger station and joint terminals at Toronto commensurate with the passenger travel to the city, and the elimination of grade crossings by the elevation of their tracks along the waterfront. The work of grade separation was not proceeded with owing to war and other conditions, though the construction of the Union Station was commenced in 1915 and completed, so far as it was possible to do so prior to the elevation of the tracks, at a cost of \$6,750,000. In 1924, after considerable negotiation and investigation on behalf of the Government, the railways undertook to complete the work of grade separation on revised plans to be approved by the Board of Railway Commissioners on generally the same terms as approved by you in 1914 save that the proportion of the cost to be borne by the Canadian National Railways and this company is to be defrayed by them individually instead of jointly through the medium of securities issued by the Toronto Terminals Railway Company. The net cost of the work of grade separation is to be borne to the extent of 30 per cent by the city of Toronto and the balance in equal proportions by the Canadian National Railways and your company. Legislation has been passed which empowers the companies to make the necessary financial arrangements. Your approval will be asked to the proposals and to the company's participation in the cost and the issuance of such securities as may be necessary to defray it.

#### Lake Louise Chalet

10. On July 1 the original portion of the Lake Louise Chalet was destroyed by fire. This resulted in considerable loss of revenue during the tourist season, but fortunately the fire was unaccompanied by any loss of life or injury to the guests or employees of the hotel. Your directors considered it necessary that the portion destroyed should be replaced immediately at an estimated net cost of \$1,479,000 after crediting insurance. The work is proceeding satisfactorily, and the hotel will be completed and ready for operation in June of this year.

#### Capital Expenditures

11. In anticipation of your confirmation, your directors authorized capital appropriations, in addition to those approved at the last annual meeting, aggregating for the year 1924, \$3,697,239, and ask your approval to expenditures on capital account during the present year of \$4,858,900. Of this amount the principal items are:

Replacement and enlargement of structures in permanent form....	\$956,851
Additional stations, round houses, freight sheds, and shops, and extensions to existing buildings.....	626,138
Tie plates, rail anchors, ballasting, ditching and miscellaneous roadway betterments .....	251,100
Replacement of rail in main and branch line tracks with heavier section .....	1,299,191
Additional terminal and side track accommodation.....	377,247
Improving coaling and watering facilities.....	259,905
Mechanical Department, machinery at various points.....	253,765
Improvements in connection with Telegraph service.....	83,648

The balance of the amount is required for miscellaneous works to improve facilities and effect economies over the whole system.

#### Branch Line Construction

12. During the year branch line construction in the Western Provinces was proceeded with, 227 miles of railway being graded and 214 miles of track laid on lines, the construction of which you had previously authorized. Your directors are of the opinion that moderate extensions should be built during the present year, and your authority will be asked for proceeding with the construction of the following lines as conditions warrant and for the issue and sale of a sufficient amount of Consolidated Debenture Stock to meet the expenditure, namely:

Cutknife-Whitford Lake Branch, Mile 40-95.....	55 miles
Amulet-Dunkirk Branch, Mile 25-45.....	20 miles
Pashley Northeasterly Branch-Pashley to junction with Leader Southerly Branch, Mile 0-33.....	33 miles
Pashley Northeasterly Branch-Pivot to Fox Valley.....	25 miles
Five Lake Branch, Southeasterly from a junction with the Moose Jaw Southwesterly Branch.....	43 miles

It is also proposed to proceed with the construction of a section of the Langdon North Branch from Rosedale Mine to Bull Pound Creek, a distance of 39 miles. The Shareholders have already authorized the construction of this Branch Line, and under an arrangement with the Canadian National Railways this portion of it will be constructed as a joint section, each Company to bear one-half the cost.

#### Freight Rate Situation

13. The points in dispute relative to the powers of the Board of Railway Commissioners respecting what are known as the Crow's Nest Rates which the Company agreed to establish in 1897 have been the subject of reference to the Supreme Court of Canada, with the result that the Court has decided that the Board of Railway Commissioners are without jurisdiction to interfere with these rates, they being in the Court's opinion of a statutory character and therefore not subject to review by the Commission, but the Court has held that the specified rates only apply to points on the railway of your Company as it existed in 1897. The result of the Court's

#### GENERAL BALANCE SHEET, DECEMBER 31ST, 1924

ASSETS		LIABILITIES	
<b>PROPERTY INVESTMENT:</b>		<b>CAPITAL STOCK:</b>	
Railway, Rolling Stock Equipment and Lake and River Steamers .....	\$641,212,726.64	Ordinary Stock .....	\$260,000,000.00
OCEAN AND COASTAL STEAMSHIPS, Exhibit "A".....	60,146,628.91	Four Per Cent. Preference Stock.....	100,148,587.78
ACQUIRED SECURITIES (Cost):			\$360,148,587.78
Exhibit "B" .....	137,353,286.78	<b>FOUR PER CENT. CONSOLIDATED</b>	
ADVANCES TO CONTROLLED PROPERTIES AND INSURANCE PREMIUMS .....	10,461,930.56	DEBENTURE STOCK .....	\$279,244,882.08
INVESTMENTS AND AVAILABLE RESOURCES:		LESS: Collateral as below.....	15,000,000.00
Deferred Payments on Lands and Townsites .....	\$59,553,029.80		264,244,882.08
Provincial and Municipal Securities.....	792,721.29	TEN YEAR 5% COLLATERAL TRUST GOLD BONDS (1934)*...	12,000,000.00
Miscellaneous Investments, Exhibit "C,"		TWENTY YEAR 4 1/4% SINKING FUND SECURED NOTE CERTIFICATES (1944) .....	30,000,000.00
Cost .....	23,649,945.76	MORTGAGE BONDS:	
Assets in Lands and Properties, Exhibit "D" .....	98,561,477.06	Algoma Branch 1st Mortgage 5 per cent.....	3,650,000.00
	182,557,173.91	CURRENT:	
<b>WORKING ASSETS:</b>		Audited Vouchers .....	7,063,175.67
Material and Supplies on Hand.....	\$26,763,664.86	Pay Rolls .....	3,461,007.68
Agents' and Conductors' Balances.....	2,807,032.86	Miscellaneous Accounts Payable.....	6,461,060.54
Net Traffic Balances.....	1,675,235.93		16,985,243.89
Imperial, Dominion and United States Governments, Accounts due for Transportation, etc. ....	1,136,665.53	ACCRUED:	
Miscellaneous Accounts Receivable.....	7,237,144.95	Rentals of Leased Lines and Coupons on Mortgage Bonds..	770,327.21
Cash in Hand.....	42,405,205.63	EQUIPMENT OBLIGATIONS .....	10,790,000.00
	82,024,949.76	RESERVES AND APPROPRIATIONS:	
		Equipment Replacement .....	3,864,975.99
		Steamship Replacement .....	14,904,359.65
		Reserve Fund for Contingencies and for Contingent Taxes .....	25,276,135.41
			44,045,471.05
		<b>PREMIUM ON ORDINARY CAPITAL STOCK SOLD:</b>	
		LESS: Discount on Collateral Trust Gold Bonds, and Note Certificates .....	41,502,075.86
		NET PROCEEDS LANDS AND TOWNSITES .....	79,142,690.06
		SURPLUS REVENUE FROM OPERATION .....	131,992,922.25
		SPECIAL RESERVE TO MEET TAXES IMPOSED BY DOMINION GOVERNMENT .....	1,921,182.69
		SURPLUS IN OTHER ASSETS .....	116,563,313.69
			\$1,113,756,696.56

\$1,113,756,696.56

J. LESLIE, Comptroller.

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decision naturally creates violent inequalities and discriminations between communities which have until recently enjoyed a parity of rate schedules—a consequence which was pointed out when the question was the subject of Parliamentary enquiry in 1922. Undoubtedly, intervention by Parliament will be necessary in order that a scale of rates may be evolved which will be free from such discrimination, even though legal in character. The Canadian producers suffer from a geographical disability due to the great distance their products have to be hauled. This difficulty has always existed and cannot be entirely eradicated. The remedies which are suggested are for the most part artificial and of doubtful soundness. A general lower scale of rates is not possible without grave unfairness to the transportation companies unless brought about through increase of traffic in consequence of greater population and development in the country itself. Two factors, however, appear to be reasonably certain, namely, that an independent tribunal free from political influence should determine the reasonableness of Canadian railway rates and that the Companies should receive adequate revenues for the vitally important services they render. The essential character of these factors has been recognized in Great Britain, the United States and in Canada, and your Directors are extremely hopeful that the interests of the companies will not be lost sight of in the consideration of the matter by Parliament. Were rates in Canada to be determined for reasons of political expediency or as a result of political pressure, Canada would depart from the principles of the Railway Act, one of the most constructive pieces of legislation on the Statute books of the country, and would take a backward step, having both direct and indirect commercial and economic consequences which would be greatly to the country's disadvantage. The complicated question of freight schedules is one which can only be dealt with by a dispassionate tribunal with the aid of experts and having in view the interests of the shippers and consumers and of the transportation agencies of the country. In public discussions of the subject the value of the work of the transportation companies and in particular of your Company is frankly recognized, but the fact that that work can only be carried on successfully under a fair scale of rates is sometimes overlooked. The question has become one of government policy, and your directors will probably be in the

#### AUDITORS' CERTIFICATE.

We have examined the Books and Records of the Canadian Pacific Railway Co. for the year ending December 31st, 1924, and having compared the annexed Balance Sheet and Income Account therewith, we certify that, in our opinion, the position of the Company at that date, and that the relative Income Account for the year is correct.

Montreal, March 7th, 1925.

[ADVERTISEMENT]

(Continued from page 858)

tion of unpaid vouchers. The economies we have indicated above will undoubtedly be reflected in the current year's returns; so that, while the indicated returns of \$4.36 per share for the common stock in 1924 are not so good as we should like to see them, we feel that they are built upon a solid foundation, and that the excellent prospects for 1925 will produce at least as good if not better results."

Selected items from the income account follow:

	1924	1923	Increase or decrease
Total railway operating revenue....	\$130,880,512	\$130,403,088	\$477,426
Maintenance of way and structures.....	\$15,066,589	\$15,669,452	—\$582,863
Maintenance of equipment.....	27,937,080	29,153,666	—1,216,586
Transportation .....	51,781,162	54,103,307	—2,322,145
Total railway operating expenses.....	\$101,206,546	\$104,990,136	—\$3,783,590
Net revenue from railway operations.....	\$29,673,966	\$25,412,950	\$4,261,016
Railway tax accruals.....	6,571,087	5,600,634	970,453
Total railway operating income.....	\$23,046,156	\$19,795,314	\$3,250,843
Total other income.....	\$1,486,473	\$1,795,449	—\$308,976
Total income .....	\$24,532,629	\$21,590,763	\$2,941,867
Hire of freight cars—debit balance.....	\$3,758,492	\$3,317,118	\$441,374
Rent for equipment (other than freight cars) .....	564,581	865,166	—\$300,585
Joint facility rents.....	1,904,401	1,853,252	51,150
Total .....	\$6,666,613	\$6,626,076	\$40,536
Balance before deduction of interest .....	\$17,866,017	\$14,964,686	\$2,901,330
Total interest .....	\$11,030,796	\$10,483,184	\$547,612
Balance of income (available for dividends) .....	\$6,835,221	\$4,481,502	\$2,353,718
Dividends:			
Seven per cent preferred.....	\$2,059,547	\$2,059,547	.....
Six per cent preferred.....	1,507,638	1,506,588	\$1,050
Total dividends .....	\$3,567,185	\$3,566,135	\$1,050
Balance surplus (carried to profit and loss) .....	\$3,268,036	\$915,367	\$2,352,668
Per cent on common stock.....	4.36	1.22	3.14

position of making further representations to you in respect of it at the forthcoming annual meeting.

#### Additional Directors

14. By an amendment to your Company's Charter obtained in 1920 it is provided that the number of directors shall be such, not exceeding eighteen, as shall be fixed by by-law of the Company. Your directors are of the opinion that the number should be increased, and a by-law will be submitted for your approval giving effect to this increase and the method of election.

#### Death of Sir Edmund Osler

15. It is with deep regret that the directors have to report the death, on August 4th, 1924, of their colleague, Sir Edmund B. Osler.

Sir Edmund was elected a director of the company in June, 1885, and served on the Board continuously for a period of close upon forty years, during twenty-five years of which he was also a member of the Executive Committee of the Board. His sound judgment and wise counsel were at all times of incalculable value in the administration of the Company's affairs. He had in addition obtained for himself a very outstanding position throughout Canada, and in his death both the Country and the Company has sustained a very great loss.

16. Mr. Ross H. McMaster, of Montreal, was elected a Director of the Company to fill the vacancy occasioned by the death of Lord Shaughnessy, and Mr. W. N. Tilley, K. C., was appointed a member of the Executive Committee to fill the vacancy occasioned by the death of Sir Edmund B. Osler.

17. The undermentioned Directors will retire from office at the approaching annual meeting. They are eligible for re-election:

MR. EDWARD W. BEATTY,  
HON. FREDERICK L. BEIQUE, K. C.,  
MR. CHARLES R. HOSMER,  
RT. HON. LORD SHAUGHNESSY, K. C.

For the Directors,

E. W. BEATTY, President.

Montreal, March 9th, 1925.

Co. for the year ending December 31st, 1924, and having compared the annexed Balance Sheet is properly drawn up so as to show the true financial position of the Company at that date, and that the relative Income Account for the year is correct.

PRICE, WATERHOUSE & CO.,  
Chartered Accountants (England).

DETROIT, TOLEDO & IRONTON.—*To Pay Off Adjustment Bonds.*—The Central Union Trust Company has issued notification that there have been called for payment on April 1, the adjustment mortgage bonds. Payment will be at par with interest. These bonds were issued in 1914 and mature in 1954. Interest not to exceed five per cent was to be paid if earned, but was to be cumulative from January 1, 1919. No interest has ever been paid. The bonds are subject to call as a whole at par and interest. The bonds outstanding have a par value of \$7,630,981 and the accumulated interest on April 1 will amount to \$1,907,995, a total of \$9,538,976. Most of the issue is held by Henry or Edsel Ford, having been purchased by the Fords in 1920 at a price of \$600 per \$1,000 bond.

GRAND RAPIDS & INDIANA.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon a branch line from Round Lake Junction to Jennings, Mich., 3.7 miles, and part of a branch from Veneer Junction to Michelson, Mich., 16.34 miles.

GULF, MOBILE & NORTHERN.—*Bonds Sold.*—Kuhn, Loeb & Co. have sold \$4,000,000 first mortgage 5½ per cent gold bonds, due October 1, 1950, subject to Interstate Commerce Commission approval. The bonds were sold at 99¾, at which they yield about 5.55 per cent. Proceeds from the sale of the issue will be used to pay all present indebtedness of the company, for further expenditures and to provide additional working capital.

ILLINOIS CENTRAL.—*Acquisition.*—The Interstate Commerce Commission has made public a proposed report by Examiner Davis recommending a finding by the commission that the acquisition by this company, through the Mississippi Central, of control of the Gulf & Ship Island, 307 miles, by purchase of its capital stock for \$5,000,000 in notes, would be in the public interest.

KENTUCKY & INDIANA TERMINAL.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue \$607,924 of first mortgage bonds to reimburse the treasury.

**MINNEAPOLIS & ST. LOUIS.—Time for Deposit of Bonds Extended.**—Holders of the first mortgage 5 per cent bonds of the Minneapolis & St. Louis, due in 1934, and the first mortgage 4 per cent bonds of the Des Moines & Fort Dodge, due in 1935, have been notified that the time for depositing such bonds has been extended to April 15. The bonds will be received either by the depository, the American Exchange National Bank, or the committee, of which Walter H. Bennett, Frederick J. Lisman and L. Edmund Zachen are members. The notice points out that a majority in principal amounts of each issue has been deposited and that foreclosure proceedings will be commenced shortly.

**NEW YORK, CHICAGO & ST. LOUIS.—Merger Proceedings.**—The Interstate Commerce Commission has issued an order permitting Albert I. Stiles to intervene in the proceedings on this company's merger application, in behalf of the holders of common stock and convertible bonds of the Chesapeake & Ohio. Mr. Stiles has filed a petition in which he asserts that the proposed plan of exchange of securities does not do justice to the Chesapeake & Ohio stockholders. The Virginia Corporation Commission and the Kentucky Railroad Commission have notified the federal commission that they approve the granting of the Nickel Plate application. The American Short Line Railroad Association has asked to be kept informed regarding hearings or conferences on the application so it may have an opportunity to know whether it will be necessary for the association or its members to intervene for the protection of the short lines.

Albert I. Stiles is secretary of the New York Chesapeake & Ohio Stockholders Protective Committee.

**C. & O. Richmond Committee Holds New York Meeting.**—Representatives of the C. & O. stockholders committee headed by George Cole Scott of Richmond, Va., held a meeting in New York on March 20, and have formed a New York organization which will co-operate with the Richmond committee. The chairman of the New York organization is Everett Jacobs, a real estate dealer. Other members include Henry S. Hooker and Robert L. Harrison and additional members will be chosen.

The Richmond protective committee applied for an order in the Chancery Court at Richmond on March 19 to restrain the meeting of the stockholders to be held to approve the merger plans on March 30.

**Injunction Denied.**—Judge Moncure in the chancery court at Richmond decided that he would not execute injunction proceedings against the stockholders meeting March 30, providing the Chesapeake & Ohio counsel assured the court that the lease will not be executed until the validity of the lease has been decided. This means that the minority stockholders can still fight the signing of the lease on the question of its validity.

**Pere Marquette Stockholders Approve.**—Stockholders of the Pere Marquette approved the lease to the Nickel Plate at their meeting in Detroit on March 21. Seventy-two per cent of the stock was represented and there were no dissenting notes.

**Erie Stockholders Approve.**—Erie stockholders at their meeting in New York on March 25, approved the lease of the road to the New Nickel Plate company, by a vote of 1,224,994 shares in favor to 1,935 against.

**NEW YORK, NEW HAVEN & HARTFORD.—Refunding.**—The Manufacturers Association of Connecticut, Inc., has recently issued a 12-page circular describing the plan whereby the industries of southern New England assisted the New Haven in the recent refunding of the latter's \$23,000,000 European Loan. The circular contains a brief article written by E. G. Buckland, vice-president of the New Haven, describing the manner in which the plan was originated and carried to a successful conclusion. Copies are given of the resolutions passed by the various commercial organizations, full page reproductions of the advertisements published in the daily papers and a selection of excerpts of editorial comment in the daily press.

**PITTSBURGH, CINCINNATI, CHICAGO & ST. LOUIS.—Bonds.**—This company has applied to the Interstate Commerce Commission for authority to issue \$26,000,000 of 5 per cent gold bonds, at 96, to be guaranteed by the Pennsylvania, which were recently offered by Kuhn, Loeb & Co.

**SARATOGA & ENCAMPMENT.—Abandonment.**—The Morse Brothers Machinery & Supply Company has applied to the Interstate Commerce Commission for a certificate authorizing the abandonment of this company's line from Walcott to Encampment, Wyo., 48.57 miles.

**SEABOARD AIR LINE.—Equipment Trust.**—The Interstate Commerce Commission has granted authority for this carrier to assume obligation and liability with respect to \$1,101,033 deferred equipment trust certificates, series V, Class D, to be issued by the Chase National Bank, New York, under an agreement dated April 2, 1923. These equipment trusts cover the rebuilding of certain cars. A previous order authorized the issuance of 6,600 certificates, the proceeds of which were \$694,625. The rebuilding of the cars has been finally determined to have cost \$1,795,658, leaving a difference of \$1,101,033 to be covered by the present securities.

**SOUTHERN PACIFIC.—Bonds.**—This company has applied to the Interstate Commerce Commission for authority to issue \$2,600,000 of 4 per cent bonds, to be delivered to the Central Pacific in exchange for a like amount of its preferred stock and to be deposited with the trustee of the mortgage as collateral for the bonds. The Central Pacific has also applied for authority to issue the preferred stock to be exchanged for the bonds, the proceeds of which are to be used for capital purposes.

**TEXAS & PACIFIC.—New Directors.**—John J. Raskob and E. J. Davey have been elected directors succeeding John G. Drew and Charles C. Huitt.

**TOLEDO TERMINAL.—Authorized to Issue Bonds.**—The Interstate Commerce Commission has granted authority to issue \$500,000 of first-mortgage 4½ per cent bonds to be delivered, together with \$34,000 of like bonds now held by the applicant, to proprietary companies in partial settlement of advances made to the applicant. The proprietary companies are seven in number and include the Pere Marquette; the New York, Chicago & St. Louis; the Pennsylvania; the New York Central; the Michigan Central; the Grand Trunk Western, and the Baltimore & Ohio.

**VICKSBURG, SHREVEPORT & PACIFIC.—Annual Report.**—The annual report for the year ended December 31, 1924, shows an income balance of \$320,129 as compared with \$564,293 in 1923. The income account compares as follows:

	1924	1923
Miles of road operated .....	188	184
Passenger revenue .....	\$1,013,246	\$1,199,051
Freight revenue .....	2,934,687	2,940,793
Total operating revenues .....	4,259,264	4,460,579
Maintenance of way .....	815,044	689,781
Maintenance of equipment .....	655,230	802,036
Traffic .....	143,300	135,714
Transportation .....	1,508,385	1,439,135
General .....	183,176	166,966
Total operating expenses .....	3,327,474	3,263,204
Net revenue from railway operations .....	931,790	1,197,376
Railway tax accruals .....	278,795	349,589
Railway operating income .....	651,937	844,011
Gross income .....	740,025	931,668
Total deductions .....	419,896	367,375
Income balance .....	320,129	564,293

**WARASH.—Preferred Dividend.**—Directors at their meeting on March 26 declared a quarterly dividend of \$1.25 on the preferred A stock, payable May 25 to holders of record April 18.

**WESTERN PACIFIC.—Bonds Authorized.**—The Western Pacific Railroad Company has been granted authority by the Interstate Commerce Commission to issue not exceeding \$4,000,000 first mortgage 5 per cent gold bonds, series B; these bonds to be sold for not less than 90 per cent of par and accrued interest. The bonds cover expenditures for capital purposes totaling \$3,510,606 not yet capitalized and the estimated cost, \$870,378, of additional improvements.

### Dividends Declared

Gulf, Mobile & Northern.—Preferred, 1½ per cent, quarterly, payable May 15, to holders of record, May 1.  
 Kansas City Southern.—Preferred, 1 per cent, quarterly, payable April 15 to holders of record March 31.  
 Meadville, Conneaut Lake & Linesville, 2 per cent, payable April 1 to holders of record March 14.  
 Midland Valley.—Common, \$1.25 (initial), payable April 15 to holders of record March 31.  
 Reading Co.—Common, \$1 quarterly, payable May 14 to holders of record April 16.

### Trend of Railway Stock and Bond Prices

	March 24	Last Week	Last Year
Average price of 20 representative railway stocks .....	77.31	80.27	62.72
Average price of 20 representative railway bonds .....	90.01	90.52	85.26



## Railway Officers

### Executive

**H. N. Rodenbaugh**, general manager of the Florida East Coast, with office at St. Augustine, Fla., has been elected vice-president in charge of operation, traffic and construction and a director of the company. His headquarters will remain the same.

**Scott M. Loftin**, general counsel of the Florida East Coast, with headquarters at Jacksonville, Fla., has been elected vice-president and general counsel of that road with the same headquarters. Mr. Loftin was born on September 14, 1878, at Montgomery, Ala., and attended Washington and Lee University during 1898 and 1899. Subsequently he studied law and became a practicing attorney. His first railway service was with the Florida East Coast, for which company he became general solicitor on November 23, 1917. He held this position until August, 1918, when he was advanced to the position of solicitor. Three years later he was again promoted — this time to general counsel,



S. M. Loftin

which position he was holding at the time of his recent election to the post of vice-president and general counsel.

### Financial, Legal and Accounting

**W. D. Hunter** has been appointed general solicitor of the Chicago, Milwaukee & St. Paul corporation, succeeding **O. W. Dynes**, who resigned to become attorney for the three receivers of the road.

**Duane E. Minard**, general attorney of the Erie at New York, has resigned to resume general practice in partnership with **George S. Hobart** under the firm name of **Hobart & Minard**, with offices at 24 Branford place, Newark, N. J.

**E. W. Sprague**, who has been appointed general claim agent of the Illinois Central, with headquarters at Memphis, Tenn., as reported in the *Railway Age* of March 21, was born in 1874 at Buchanan, Mich. He entered railway service in 1895 as a stenographer in the office of the general baggage agent of the Illinois Central at Chicago and later served in a similar capacity in the general freight office and in the law department. He was promoted to chief clerk in the claim department in May, 1901, and was promoted to district claim agent in 1909. Mr. Sprague was promoted to assistant chief claim agent at Chicago in 1911, later in the same year being transferred to Memphis, Tenn. He remained there until his recent promotion to general claim agent.

### Traffic

**F. E. Studebaker** has been appointed district freight and passenger agent of the Union Pacific, with headquarters at Aberdeen, Wash., succeeding **J. H. Cunningham**, promoted.

**H. G. Jones** has been appointed traveling freight agent of the Seaboard Air Line, with headquarters in the Citizens & Southern Bank building, Atlanta, Ga., succeeding **T. C. McDowell**, promoted, effective March 16.

**A. L. Horst**, assistant to the president of the Cambria & Indiana, with office at Philadelphia, will henceforth act also as general freight and passenger agent, succeeding **S. B. Wixom**, who has resigned to accept service with another company.

**W. F. Greaves**, general agent, freight department, of the New York Central lines, with headquarters at Birmingham, Ala., has been transferred to Atlanta, Ga., in charge of a newly established agency. **J. H. Norwood** has been appointed general agent, freight department, with headquarters at Birmingham, succeeding Mr. Greaves.

**W. T. Lyman**, general agent of the Wabash, with headquarters at Boston, Mass., has been promoted to assistant freight traffic manager, with headquarters at St. Louis, Mo., a newly created position. **C. B. Hoxie**, traveling freight agent, with headquarters at Boston, has been promoted to general agent, with the same headquarters, succeeding Mr. Lyman.

### Mechanical

**George G. Lynch**, chief draughtsman of the Atlantic Coast Line, has been appointed assistant mechanical engineer, with headquarters at Wilmington, N. C.

### Obituary

**S. T. Stephens**, division passenger agent of the New York Central Lines, at Van Wert, Ohio, died in that city on March 18.

**C. H. Chambers**, who retired as auditor of the New York Central Railroad in 1920, died at his home in Daytona, Fla., on March 17, at the age of 68.

**F. C. Dumbeck**, assistant general freight agent of the St. Louis-San Francisco, with headquarters at St. Louis, Mo., died in that city on March 18 after a month's illness from a rheumatic ailment.

**John Howard**, superintendent of motive power of the New York Central, with headquarters at New York, died suddenly on March 24. Mr. Howard entered the railway service as a



John Howard

machinist's apprentice on the Pennsylvania at Renovo, Pa., and from 1883 to 1884 was successively machinist's apprentice and locomotive inspector on the New York, West Shore & Buffalo (now a part of the New York Central) at Kingston, N. Y. From 1884 to 1891 he was foreman of the engine-house of that road at Frankfort, N. Y. In 1891 he became general foreman, which position he held until 1892 when he was appointed master mechanic of the River division of the West Shore at New Durham, N. J. He was

promoted to superintendent of motive power and rolling stock of the Pennsylvania division of the New York Central at Corning, N. Y., in 1901 and, in 1902, became superintendent of motive power of the Western division of the same road at Depew, N. Y. From May, 1904, to November, 1904, he was superintendent of motive power and rolling stock of the Boston & Albany at Boston, Mass., and on November 1, 1904, became superintendent of motive power of the New York Central at New York. This position he held at the time of his death.

**Henry E. Suckling** treasurer of the Canadian Pacific, with headquarters at Montreal, died of pneumonia on March 21 at Atlantic City, N. J., where he had gone to recuperate from a recent illness. Mr. Suckling was born on February 27, 1851,

at Gibraltar, N. S. He entered railway service in March, 1874, as an accountant for the Credit Valley (one of the predecessors of the C. P. R. at Toronto, Ont.). He was from 1875 to 1883 secretary-treasurer of the same road and from 1881 to 1882 receiver for the Court of Chancery for the same road. From 1883 to 1886 he was local treasurer of the Ontario lines of the Canadian Pacific. From 1886 to 1908 he was assistant treasurer of all the C. P. R. lines and in the latter year was advanced to treasurer, in which position he was serving at the time of his death.

#### NEWMAN ERB

Newman Erb, since 1912 president of the Ann Arbor, and prior thereto the organizer, reorganizer or head, at one time or another, of a dozen or more railroad properties, died in Roosevelt Hospital, New York, on March 25, following an operation. Mr. Erb was 74 years of age.

Mr. Erb was best known as a dealer in railroads. His interest in railroad properties was versatile, but no more versatile than his career in general. He started in business as a clerk. He was later an accountant. Then he studied and practiced law. He followed this by engaging in the newspaper business. In 1881 he entered the railroad field and for 30 years thereafter was one of the railway leaders of the period. He was also interested in copper mining and had various other diverse interests.

Mr. Erb was born at Breslau, Germany, on June 16, 1850. His parents came to America when he was three years of age and located in St. Louis, where the young man received his education in the public schools. He started in business as a private secretary to the vice-president of the Life Association of America. While holding this position he studied accounting and then became associated with a St. Louis firm selling to the saddlery trade. His next venture was the study of law. In 1872, he was admitted to the bar and began active practice at Little Rock, Ark. Three years later he founded two newspapers at Little Rock, one published in English and the other in German.

It was in 1881 that Mr. Erb entered the railway field. In that year he became identified with the construction of the Memphis extension of the Kansas City, Fort Scott & Gulf, now part of the Frisco System; he became a director and was given charge of its law department for Arkansas and Tennessee. He obtained the charter for the Mississippi river bridge at Memphis, Tenn., and was identified with its construction. In 1886, he was appointed receiver of the unfinished Memphis, Selma & Brunswick, which he completed from Memphis to Holly Springs, Miss., and later, when the road was taken over by the Kansas City, Fort Scott & Memphis, he was identified, now as general manager, with its extension to Birmingham, Ala., as the Kansas City, Memphis & Birmingham. For a time he was a director and had charge of the law department of the latter.

In 1885, Mr. Erb organized and became president of the Western Telegraph Company, and built a connection with the Baltimore & Ohio Telegraph Company, bringing that line into Memphis. In 1886, he began the construction of the Kansas City, Wyandotte & Northwestern which he completed from Kansas City to Virginia, Neb., with several branch lines; he became vice-president, later president and subsequently receiver. The property was bought by Jay Gould and is now a part of the Missouri Pacific System.

In 1892, Mr. Erb removed to New York and, acting for clients, bought the Meriden & Connecticut River, of which he was made vice-president and which later was absorbed by the New York & New England, now part of the New York, New Haven & Hartford. In 1896, he acquired control of the St. Louis, Cape Girardeau & Western and several small lines in southeastern Missouri and northwestern Arkansas, which he combined, and then headed a syndicate which extended the line to St. Louis and Memphis, Tenn., making the shortest line between those points on a water level. He sold the road, over 600 miles, to the St. Louis & San Francisco, of which it now forms a part. Two years later Mr. Erb, with F. H. Prince, of Boston, formed a syndicate which acquired control of the Pere Marquette, of which he was assistant to the president and later vice-president. In 1903, he formed a syndicate to buy the Cincinnati, Hamilton & Dayton, which then took over the Pere Marquette. The two roads were later sold and shortly after went into the hands of receivers. About 1900, Mr. Erb formed a syndicate and acquired control of the Wisconsin Central, but retired from the syndicate, and in 1908 again came into control of that property, having the title of chairman

of the board and president, but sold it in 1909 to the Minneapolis, St. Paul & Sault Sainte Marie. In 1902, Mr. Erb was appointed temporary receiver of the Chattanooga Southern, and was a director of that company following its reorganization. Later he acquired full control of this property and was president of the Tennessee, Alabama & Georgia, the successor company. In 1910, Mr. Erb, with his friends, came into control of the Ann Arbor Railroad, of which he served as president from December, 1912, and he was also president of the Manistique & Lake Superior. From October 9, 1911, to September, 1916, Mr. Erb also held the position of president of the Minneapolis & St. Louis, and president of the Iowa Central. For a while, beginning in 1912, he held control of the Denver, Northwestern & Pacific and was president of the Denver & Salt Lake, its successor company.

Mr. Erb had many interests outside of railroads. In 1904, for instance, he came into control of some 20 public utility companies in different parts of the country, including water companies in the neighborhood of New York, at Topeka, at Denver, etc. In 1907, he became interested in copper, and was elected president of the British Columbia Copper Company. In 1910, he became vice-president of the New Dominion Copper Company.

#### LOGAN G. MCPHERSON

Logan Grant McPherson, economist, organizer and first director of the Bureau of Railway Economics, died at St. Luke's Hospital, New York City, on March 23, after a long illness. Mr. McPherson was well known as an authority on railway economics and a frequent contributor to magazines and the railway and general press on railway subjects, besides having taken an active part in arousing and organizing the efforts of the railways to obtain a dissemination of correct knowledge and a public understanding of the facts involved in questions in which the railways and the public are jointly interested. He had first become interested in railway economics while doing newspaper work and had much to do with influencing railway executives to an appreciation of the need for adequate publicity on railway matters.

Mr. McPherson was born at Circleville, Ohio, on August 11, 1863, and after a public school education became a newspaper reporter in 1879. From 1880 to 1891 he was in the service of the Pennsylvania Lines and from 1892 to 1901 he held various positions in the coal industry at Pittsburgh. In 1902 he was in the service of the Baltimore & Ohio and in 1903 he was secretary and assistant treasurer of the Consolidation, Fairmont & Somerset Coal Company. In 1904 he was statistician of the Rock Island system. During 1905 and 1906 he was assistant to the late Samuel Spencer, president of the Southern, in the bureau organized as representative of the associated railways for the collection and dissemination of material representing the position of the railways while the bill afterward known as the Hepburn law was under consideration in Congress. From 1906 to 1909 he was engaged in an economic investigation of railroad freight rates and in 1909 he accompanied the National Waterways Commission to Europe as traffic expert.

In 1910, at the invitation of a committee of railway executives, Mr. McPherson organized the Bureau of Railway Economics, the idea for which was the outgrowth of the work of the Spencer bureau, for the collection and dissemination of railway statistics and information both for the practical purposes of the railways and for use in public relations work. He was director of this bureau during its organization period and until 1914, when he was succeeded by Prof. Frank H. Dixon. From 1906 to 1914 he was also lecturer on transportation at Johns Hopkins University and his work in this capacity, as well as in a later series of lectures at Harvard University, represent an important contribution to the literature of the subject.

Mr. McPherson was a frequent contributor to the *Railway Age Gazette* and was the author of "The Money and Banking Problem," 1896; "The Working of the Railroads," 1907; "Railroad Freight Rates in Relation to the Industry and Commerce of the United States," 1909; "Transportation in Europe," 1910; "How the World Makes Its Living," 1915; "The Flow of Value," 1919, and "Human Effort and Human Wants," 1923. He was editor of the transportation number of the London Times published in 1912 and he had recently returned from England where he had made a study of the working of railway amalgamation.